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Issue 153
December 2015

The magazine for producers, engineers and recording musicians

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Expert Panel



Studio Hardware John Pickford

A studio engineer for over 25 years, John's a keen sound recording historian who has a passion for valve-driven analogue equipment and classic recording techniques.



Mixing/Mastering/Logic Mark Cousins

Mark specialises in sound design and cinematic productions. He's recorded with orchestras across Europe and is heavily involved in soundtrack composition.



Careers Editor Rob Boffard

A sound designer with a background in TV and radio work, Mark's a Reason evangelist and – when he isn't writing for *MusicTech* – releases hip-hop music under the name Rob One.



Digital/Composition Andy Price

With a Masters in songwriting and a vast interest in music history and recording techniques, Andy works daily on *MusicTech*.net and regularly contributing to the magazine. He's currently heading up our *Landmark Album* features and songwriting/Cubase series.



Recording & Guitar Tech Huw Price

A recording engineer since 1987, Huw has worked with the likes of David Bowie, My Bloody Valentine, Primal Scream, Depeche Mode, Nick Cave, Heidi Berry and Fad Gadget.



Scoring/Orchestral Keith Gemmell

Keith specialises in areas where traditional music-making meets music technology, including orchestral and jazz sample libraries, acoustic virtual instruments and notation software.



Ableton Live Martin Delaney

Martin was one of the first UK Ableton-Certified Trainers. He's taught everyone from musicians to psychiatric patients and written three books about Live. Martin also designed the Kenton Killamix Mini USB MIDI controller and is now the editor of www.ableton-live-expert.com.



Reason, DJ & Mobile Hollin Jones

In addition to teaching music technology, and producing / writing soundtracks, Hollin is an expert on everything Apple – mobile or computer-related – and an accomplished keyboard player.



Electronic Music Alex Holmes

Alex has been a computer musician for 15 years, having a keen passion for beats, bass and all forms of electronic music. He's currently involved in three different dance music projects.



Pro Tools Mike Hillier

Mike spent five years at Metropolis Studios, working alongside some of the best-known mix and mastering engineers in the world. He now works out of his own studio in London.

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If there's one thing our biggest success story of 2015 – *MusicTech's Show Off Your Studio* feature, before you ask – has shown, it's that you like great-looking gear and gadgets.

Whether you're using a

simple, computer-based system, a fully-fledged, classic analogue hardware set-up or anything in between, the addition of one or two choice extra 'bits' can make the difference. Okay, we admit that some of these gadgets might not be *essential* to music-making but they all add a certain something to your set-ups – a warm feeling which makes you glad that they're there, whether you absolutely need and use them or not. And they look great, too...

So to celebrate 'the gadget', specifically those that are music production-related, we've rounded up the cream of the essential (and purely indulgent) pieces of hardware which you might consider sticking on your 'gift list' this Xmas – to give, receive or, if you're as sad as me, those you'll end up buying for yourself anyway. There's everything from computerless, do-it-all boxes to mobile tech, plus a look at the near future of music production and those that once looked like they were destined for greatness but didn't quite make it. Turn to page 10 for your tickets to tech heaven...

Finally, in response to last issue's call for *Gear Of The Year* nominations, we've received a phenomenal number of entries. We'll be announcing those next month so look out for the issue 154, which goes on sale December 17. Until then...

Andy Jones Senior Editor

Email andy.jones@anthem-publishing.com

facebook: www.facebook.com/MusicTechMag

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MT Contents

Issue 153 ■ December 2015

ULTIMATE MUSIC GADGETS P10

ROLAND BOUTIQUE P20

FREE SAMPLES GO HERE P115



■ MT Cover feature

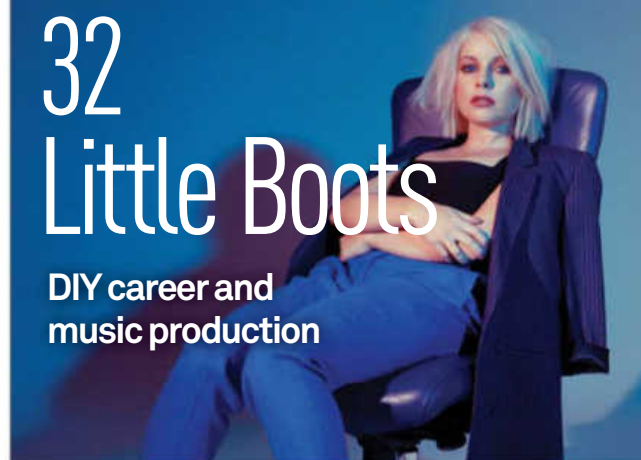


12 ULTIMATE GADGETS!

The best gadgets for mobile, computerless control in your music making. Plus some plain out-there and cool ones!

32 Little Boots

DIY career and music production



■ MT workshop

24 CREATE YOUR OWN STUDIO 2

We build a studio from scratch! The final part in our feature demonstrating how to create your own production environment





The latest reviews

ROLI SEABOARD RISE

Plus reviews of Steinberg, Blue Cat, NI, EastWest, AKG and many more...

DAW workshops

42 Ultimate Guide To Live

Video in Live

48 Mastering Part 3

Sum + difference in mastering

52 Logic In Depth

Getting into Alchemy

MT Buyer's Guide

103 Six of the best... microphones

For a variety of studio applications

MT Issue 153 Full listings...

ADVANCE

007 | *Industry news and opinion*

COVER FEATURE

010 | *Ultimate studio gadgets*

The best gadgets you can buy for music making

CREATE A PRO STUDIO PART 2

024 | We complete our pro studio

INTERVIEW

032 | Little Boots' DIY ethic

TECHNIQUE

042 | *The Ultimate Guide To Live*

Using video in Live

048 | New Series: *Mastering Part 3*

Sum + difference in mastering

052 | *Logic In Depth Part 6*

Getting into Alchemy

SUBSCRIBE

058 | ... and get a huge discount!

REVIEWS

060 | Lead: ROLI Seaboard RISE
new dimensions in control

068 | Cymatic uTrack X-32
interface card

071 | EastWest ProDrummer
virtual drummer

073 | Blue Cat Audio plug-in

074 | SL Gamelan instrument

078 | Abbey Road classic piano

081 | Steinberg Nuendo 7 DAW

082 | Black Lion Audio mic pre

085 | AKG C314 microphone

087 | IK Cinematic Percussion
sample collection

088 | Rode NTR ribbon mic

090 | EZ Keys Pipe Organ plug-in

092 | Kinsman KM Series mixers

095 | Native Instruments Brass
instrument plug-in

096 | Prism Titan interface

100 | *Mini Reviews*

REGULAR FEATURES

103 | *6 of the best...* microphones

107 | *6 plug-ins...* forcreativity

110 | *Show off your studio* now!

115 | *On your MT DVD*



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MUSICTECH AT MPX

Come and meet the team at this year's MPX show!



This year's MPX at Emirates Stadium in London features all the major music technology companies displaying their wares under one roof. There will be plenty of the latest gear releases available to try out from the likes of Yamaha, Roland, Focusrite, Novation, Steinberg, Shure, Nord, dbx, ROLI and many more, plus several companies will be hosting seminars on music production techniques.

One of the highlights of the show – of course – will be the *MusicTech* seminars, which open both days of MPX and highlight the new ROLI Seaboard (reviewed in this issue on p60). So impressed were we with this new kind of keyboard that we've decided not only to include it within these seminars but also hold a competition to win one at the show – just visit the *MusicTech* stand for more details. You'll be able to get hands-on with the Seaboard at MPX and decide for yourselves whether it is, as we conclude, "a genuinely new piece of hardware that will expand your performance and recording creativity".

Other seminars include the following: **J.A.M.E.S – Do Your Homework**, where 'a panel of representatives from top music production courses will discuss the range of courses on offer, highlighting the hidden value a degree offers in personal development, choosing the best degree and getting your money's worth out of it'; **MSL – Understanding Modular Synthesis**, where 'MSL Pro introduces and demonstrates modular synthesis by taking you through setting up a modular synthesiser, creating and making music, showing what a modular can do for your music, creating unique sounds, inspiration and having fun with sound'; and **Yamaha's Synthesis Made Easy**, where the Yamaha team will show how several parts of a track's sound are created using a variety of hardware synthesisers. So, win, learn and try out the latest gear (not to mention meeting us).

■ Details MPX Show

Date 20-21 November
2015, open 10am
to 5pm

Place Emirates
Stadium, 75 Drayton
Park, London, N5 1BU

Web www.musicproductionexpo.co.uk

USE YOUR FACE TO WIN A REFACE

Yamaha giving away a reface if you get your face in front of them at MPX...

Do you need yet another reason to visit the MPX show this November? Well, how about the chance to win a Yamaha reface of your choice? *MusicTech* will be teaming up with Yamaha at the show on 20-21 November and one lucky visitor will walk away with a Yamaha reface of their choice. You can read more about these super-chic retro marvels on p11, where they feature heavily in this month's feature on cool music gadgets. There are four in the range: piano, DX synth, analogue synth and organ, and you could be in the frame to win one if you get along to the MPX show at the Emirates Stadium. Yamaha will be setting up a photo booth at the show and all you have to do is get your picture taken there. The funniest/craziest/scariest will be chosen via Yamaha and *MusicTech*'s social networks (Facebook and Twitter) and the lucky winner announced the following week.

Web uk.yamaha.com, www.musicproductionexpo.co.uk



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SCAN COMPUTERS

3XS FWX99 PowerDAW

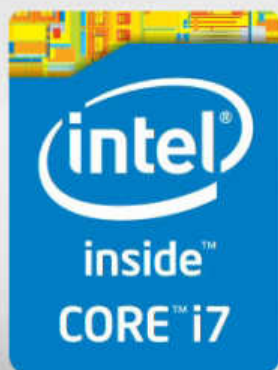
The FWX99 PowerDAW is our best value, high performance studio system. Designed around a selection of hex-core and octa-core Intel CPU options and capable of hosting a massive 128GB of RAM, this system is quite simply a versatile powerhouse ideal for all your production requirements.



Audeze LCD-X Headphones

"To call the LCD-Xs good would be an understatement on a par with describing the Beatles as popular, or Picasso as handy with a paintbrush. Because they're not good. They're amazing... Simply the best-sounding headphones I have ever heard, with incredible musical dynamics and a remarkably neutral frequency response." - Sam Inglis - Sound On Sound - October 2015

Supplier of performance hardware and pc audio workstations. Intel Inside®. Extraordinary Performance Outside.



The FWX99 audio PC is our high end studio solution for artists who find themselves really pushing the limits. Designed initially as the ideal solution for artists working with large sound banks and processor hungry plug ins, this base system with the 5820k CPU solution offers up 6 cores of processing power with hyper threading giving a total of 12 logical cores to drive your software. The is the also the additional option to upgrade this CPU to an i7 octo-core solution, which can offer up to another 40% performance in real world usage and is quite possibly the most powerful single processor option currently available. As with all of our audio production PC systems, noise levels are kept low and unobtrusive thanks to careful component choices, which include large and slow fans on the case, cooler and PSU options. These are all carefully chosen to ensure the maximum cooling with the minimum amount of noise, ensuring high performance and the minimum amount of disruption to your working environment. This model also offers the ability to add in both Firewire and Thunderbolt support through additional add in cards, ensuring that no matter what you choice of interface this system is a perfect match to be the heart of your studio both for now and many years to come.

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MusicTech GEAR OF THE YEAR

MUSICTECH GEAR OF THE YEAR 2015

The inaugural *MusicTech* awards ceremony to be held at the MPX show at London's Emirates Stadium this month...

→ **A**s well as being the place to go to try out all of the latest gear, this year's MPX show will also host the very first *MusicTech* Gear Of The Year awards ceremony. On the Friday night (20 November) after the show closes, a dozen winner and highly-commended awards will be given out at a special ceremony. The award categories and the nominations are listed below and we'll have a full round-up of all the winners in the next issue of *MusicTech*, on sale 17 December.

1. Best DAW

Ableton Live 9.2, Apple Logic 10.2, Acoustica Mixcraft Pro 7, Bitwig 1.2, Cakewalk SONAR Platinum, FLStudio 12, MoTU DP9, Presonus Studio 1 v3, Propellerhead Reason 8.3, Steinberg Cubase Pro, Tracktion 6.

2. Best Controller

Akai Advance Series, Alesis V Range, Arturia Beatstep Pro, NI Traktor Kontrol D2, Novation Launchpad Pro.

3. Best Monitors

Adam S3X-H, Focal Alpha series, Munro Sonic Egg 150, Tannoy Reveal 402, Unity Audio The Boulder Mk2.

4. Best Software Instrument (including instrument libraries)

Best Service Era II Medieval Legends, Gforce Oddity2, Heavyocity Gravity, Hybrid Two Project Bravo, NI Reaktor 6, Output Signal, Plug-in Boutique Carbon Electra, Project SAM Swing!, Sonokinetic Capriccio, Spectrasonics Omnisphere 2, u-He Hive, Zero-G Impact Designer.

5. Best Hardware Instrument

Ferrofisch B4000+, Korg ARP Odyssey, Moog Sub 37 Tribute Edition, Nord Stage 2EX, Novation MoroderNova, Roland JD-XA, Teenage Engineering PO Series, Yamaha reface range.

6. Best Software Effect/Utility

Fabfilter Pro-Q2, iZotope Ozone 6, iZotope RX Final Mix, Nugen Audio MasterCheck, Secret Base Design MusicIO.

7. Best Hardware Effect/Outboard

Chandler REDD.47 Pre Amp, dbx 676, Elysia Nvelope, Kemper Profiling Amp, Lev Solution Integrity II, Neve 1073 DPX, RND 511 range, Thermionic Culture The Little Red Bustard, Warm Audio EQP-WA.

8. Best Innovation

Novation Circuit, East West Composer Cloud, iConnectivity iConnectAudio4+, Secret Base Design MusicIO, Teenage Engineering PO Series.

9. Best Mic

Audio Technica AT5045, Sennheiser MK8, Neumann U47 FET, Rode NTR.

10. Best Interface

Apogee Ensemble Thunderbolt, Cymatic uTrack 24, Focusrite Clarett 8Pre, iConnectivity iConnectAudio4+, Prism Titan.

11. Best Hardware Accessory

Audio Technica ATH-M70x, Shure SRH1540 headphones, Ultrasone P880 headphones, Yamaha AG Series mixers.

12. Best App

KorgiM1, LK for iPad, ZeroDebug Touchable, Cross DJ HD.



MT Feature Ultimate gadgets

ULTIMATE Music Gadgets

It's getting near Christmas, so you need to treat yourself to some new hardware for your studio! We round up some of the best technology out there – within a variety of categories – to help you liven up both your production setup and your sound...

Computerless music production

There's a move away from relying on computers for music making and these self-contained gadgets will have you making tunes with a box (or two) – no glaring computer monitor required...

ROLAND AIRA TB-3 AND TR-8

The AIRA range was announced a couple of years ago to silly levels of hype, as it promised to be the closest range of new Roland gear to emulating classic old stuff, in this case THE Roland classics: the TR-808 and 909 drum machines and TB-303 bassline. The AIRA TB-3 is based on the classic 303 and provides all of the acid house squelch you could wish for and the TR-8 has all of the beats. Both look amazing, with great, well-lit appeal and – more importantly – both also sound as close to the real thing as anything digital can. With Christmas approaching, our thoughts are especially relevant... “A mere £219 for the TB-3 and the TR-8 is just £365 (both street), seriously, if you just used them as Christmas lights that would be worth it”. Nothing could have matched the hype that surrounded the

Roland's TR-8 (below) and TR-3 (bottom) come close to the classic sounds of the TR-808 and 909 drum machines and the TB-303 bassline



launch, but the TB-3 and TR-8 are both innovative and important. They undeniably look extremely cool and they sound just, well, damn close to the original. But are they as good as the originals? “They do loads more and they cost far less”, we said, “so the answer is: you betcha. But their importance is that they are priced in exactly the right way to get the next generation of producers off their sorry sofas and actually performing again. So will they, as their forefathers did, kick-start another dance revolution? Well, we are due another Summer of Love...”

Price **TB-3 £245, TR-8 £399**

Contact **Roland** on 01792 702701

Web www.roland.co.uk

KORG'S VOLCA RANGE

They might be (mostly) a couple of years old now, but Korg's Volca range is still a great set of sound makers, and available at silly prices. In many ways, they kick-started the current shift to hardware music production and also set the form, with Beats, Bass and Keys models being responsible for all of those sounds (plus a newer sample-based one offering a little more flexibility and your own creative recording). Sound-wise, they are all great with stacks of hands-on control, and when we reviewed the original three, Alex Holmes said: “If you are looking for deep sound design you probably need to look elsewhere. However, to get a true analogue synth with built-in sequencer for this price is a great deal. Korg has listened to its customers and struck the perfect balance of price and features.”

Price **£119 (£99 street)**

Contact **Korg** on 01908 304600

Web www.korg.com/uk





NOVATION CIRCUIT

Novation's Circuit came out of nowhere just a couple of months back and updates the Groovebox philosophy for the 21st century, making computerless music production – a trend set with the Volcas and Airas – an easy and fast reality. Indeed, it's this speed that puts Circuit in a class of its own. You can simply do everything you want it to do very quickly. Circuit's combination of great onboard sounds and pseudo keyboard playing can take what is in your head to a tune fast – something which, as I said earlier, you don't always get with many grid-based controllers and push-button sequencers. "This is a truly self-contained musical marvel," we said. "It excels so well at what it sets out to do – and the price of £250 is just ridiculous – that you can forget any shortcomings. It's

Novation's Circuit (left) wowed us when it was released this summer, while Teenage Engineering's PO Series (below right) caused a stir at NAMM

(all use an app to do this otherwise). The CS has no presets, but sounds glorious. Reviewer Andy Jones said: "I find the range charming – carry them, play them and hear them without connecting to the mains or dragging in your entire studio. They are sufficiently different to appeal to both specialist studio-heads – who are after some light relief and instant hands-on inspiration – and to a mass market. I'm pretty sure that at least one of the range will appeal, and I'd urge you to check them out."

Price **Street £289**

Contact **Yamaha UK on 0844 811 1116**

Web **yamahaproaudio.com**

TEENAGE ENGINEERING PO SERIES

The PO series from Teenage Engineering was the buzz of this year's NAMM show, and they certainly didn't disappoint when we reviewed them a few months



/// Circuit's great onboard sounds and pseudo keyboard take what's in your head to a tune fast ///

the most musical fun you can have with one box and no computer, and I haven't made music so quickly in 20-odd years of reviewing gear. Great real-time sound mangling and creation, great fun and you will be making music in less than three minutes. If you don't, we'll come round and do it for you..."

Price **£249.99**

Contact **Novation on +44 1494 462246**

Web **uk.novationmusic.com**

YAMAHA REFACE

Yamaha's idea with the reface range of keyboards is to include one classic keyboard in each of four mini keyboards. You get the DX (based on the classic FM synth); the CS (based on the classic analogue); the CP (on the electric piano); and the YC (based on the 60s and 70s organ). The latter two are superb, while the DX is more fully-featured with presets and onboard saving

back. They look almost unfinished, sound incredible (especially given their stupidly small size) and are, without a shadow of a doubt, aimed at cooler music creators, which didn't stop our editor from piling on the superlatives. The range comprises the PO-16 Pocket Operator 'factory melody micro synthesiser', the PO-12 programmable rhythm synthesiser for beats, and the PO-14 sub bassline micro synthesiser. Each has a 16-step sequencer, of which you can select 16 sounds to program up to 16 patterns, of which 16 can be chained. There's plenty you can do sound-wise and effects-wise to each and if you chain all three together you have your entire tune covered. "These units sound fantastic, they're incredibly fun and are as cheap as silicon chips," we said. We then bestowed just about every award we can muster upon the range.

Price **£49 each**

Contact **via website**

Web **www.teenage engineering.com**



Cool control – keyboards and more

There was a time when MIDI controllers comprised just a few rotaries to control a couple of key features. Now, controllers are used for everything from grid composition to production, mixing and performance. Here are some very different, cool models...

BEST ADDED DIMENSIONS

KEITH MCMILLEN INSTRUMENTS QUNEO



It's been around a while, but if you want to stand out we reckon the QuNeo is the one to beat in terms of control.

Pads, sliders, buttons and rotary encoders can all output note, velocity and pressure sensitivity, earning it its name as a 3D Multi-Touch Pad Controller. The best part is each control can manipulate so many parameters, which might take you a while to comprehend. But once you do – and the QuNeo editor makes customising the device very easy – you'll discover a level of control that is unlike most other devices. As we said when we awarded it a mighty 10/10: "It's nice to find something that's so revolutionary, powerful and unique at an affordable price. We can heartily recommend it."

Price **£200**

Contact **MSL Pro: 0207 118 0133**

Web **www.keithmcmillen.com**

BEST FOR LIVE

ABLETON PUSH 2

Ableton Live is the music production software phenomenon of the last 10 or so years and Ableton's Push is its hardware master. If Live is Darth Vader, Push is Darth Sidious. But rather than just being a controller over the software – which it obviously can and does do, better than most – Push becomes an instrument in its own right by taking some of the hidden features of Live and bringing them to the (control) surface, so realising its creative potential on stage and in the studio. Push 2 2 has just been released.

Price **£499**

Contact **Ableton via website**

Web **www.ableton.com**

BEST PAD CONTROL

M-AUDIO TRIGGER FINGER PRO

The original Trigger Finger was one of the first controllers that dared to be a little different. Before it arrived, controllers were usually a bank of rotaries or simply keyboards. Trigger Finger Pro, a much-expanded and upgraded device that's a bit of a quantum leap from its predecessor. Designed to be used both in the studio and on stage, or even without a



MIDI controllers such as the Keith McMillen Instruments QuNeo (left), M-Audio Trigger Finger (above right), Arturia Beatstep Pro (below) and Ableton Push 2 (bottom) now offer a wealth of functions

computer, it has quite a few potential users in its sights. Like all good controllers of this ilk, it makes beat making a breeze but also doubles, actually trebles, its control into other areas. It includes a step sequencer to put together both beats and melodies and it can control your DAW with sliders for mixing and rotaries to take care of plug-in duties. One of its best features is the software that is included with it – 5,000 samples, instruments including VST and Arsenal, which enables you to host VSTs with no DAW running.

We said: "A powerful and playable controller with some great bundled content that is equally at home on stage or in the studio. Lightweight, but well built, very playable and great hands-on control."

Price **£299.99**

Contact **InMusic via website**

Web **www.m-audio.com**



BEST ANALOGUE AND DIGITAL

ARTURIA BEATSTEP PRO

One of the best compact controllers out there, it's not immediately obvious what BeatStep Pro is for because, in fact, it's for pretty much everything: a controller, performance sequencer and composing tool in a single box. You get control over your instruments, be they hardware or software, and it has a more expansive selection of outputs than you might expect, with all-important CV outs to let it get to the midst of that cool modular analogue synth set-up you either have or want. The original Beatstep was good, but BeatStep Pro is a great step up from the smaller model for people who want to control different types of kit simultaneously, especially those who have at least a couple of the aforementioned CV-capable modules. Even if you don't and you're more reliant on software-triggered or MIDI hardware-triggered sounds, there's much to like. Workflow feels natural, and transport and remote control are possible. Arturia has struck the right balance of features, build and price, and proves controllers can be fun and modular synths needn't be the preserve of hardcore synthesis nuts. A fun multi-talented controller and sequencer that will tie together the old and new parts of your studio nicely.

Price **£179**

Contact **Source Distribution on 020 8962 5080**

Web **www.arturia.com**



**BEST FOR GRIDS****NOVATION LAUNCHPAD PRO**

The Launchpad range takes grid-based control, made so popular with Ableton Live, into new dimensions. The Pro is a tad larger than the regular Launchpad, and as Martin Delaney said: "There's plenty of newness to be explored, with velocity-sensitive full-colour RGB pads, hardware MIDI, mains power and an array of edit buttons; that's at least two items ticked off my personal wish list." He was also very positive about the

Novation's Launchpad Pro expanded on the functionality of the regular Launchpad with velocity-sensitive full-colour RGP pads, hardware MIDI and a range of edit buttons

The Launchpad range takes grid-based control, made popular with Live, into new dimensions

new full-colour feedback from the RGB-illuminated pads, not to mention the great ease of use including fast access to commonly used controls. The unit features brilliant velocity-sensitive faders, the hardware MIDI out for synth control is dead easy to set up, and it's fun to use, what more could you ask for? "In the studio, it's not as powerful as Ableton's Push in the beat and device control departments, but for other situations, the Pro is a flexible, expressive, interface, for your clips, instruments, and just about everything else. This is a great update all-round, and takes the Launchpad to a new level of Ableton Live control and performance. If you already have a Launchpad, you'll be itching to update. If you don't have one, the Pro is the perfect excuse to get on board."

**WHATEVER HAPPENED TO...****Jazzmutant Lemur and Dexter**

French company Jazzmutant released the first multi-touch controllers especially for music producers in the forms of the Lemur and Dexter. The Lemur could control pretty much anything you defined, while Dexter was aimed at specific DAWs (Logic, Cubase, SONAR and Nuendo). These sleek, black units still look as if they are from the future, and were always a wormhole ahead of their time, not to mention expensive. Perhaps unsurprisingly, the iPad offered a similar experience for far less cash and the Dexter continues within that format. The Jazzmutant website highlights v2 software for the hardware, although we assume that hardware is no longer made. The app is well worth checking out and if you can track down the units second-hand they are still damn cool. www.jazzmutant.com

Price **£229**Contact **Novation** (via web)Web www.novationmusic.com**BEST COOL AESTHETIC****MONOME**

Next to the other controllers in this round-up, Monome stands out rather like a geek on a catwalk. It's been around for the better part of a decade and now comes in Grid or sequencer forms. The former is a 16x8 grid



and is the most recognisable, kind of like the Yamaha Tenori-on in terms of its lights, but minus the (not so great) FM sounds. It's a USB box and you pretty much define its purpose – anything from step sequencer, to DAW controller and way beyond. We love the thinking and the open-ended nature. \$700 doesn't seem too much to be part of the coolest bunch of geeks on the music tech planet. 'Isn't it just a bunch of buttons with lights?' asks a question on the website. 'Yes, isn't it wonderful?' is the response. You've gotta love that.

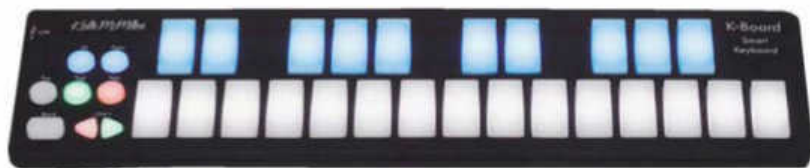
Price **\$700**Contact **Monome** via websiteWeb <http://monome.org>**BEST KEYBOARD****NATIVE INSTRUMENTS
KOMplete KONTROL**

Alongside the Akai Advance series, Komplete Kontrol is just about the best keyboard controller out there in terms of total software integration. The idea of a great hardware controller is you can turn away from your computer and do a lot of your noodling actions without it. Komplete Kontrol enables this more than other options by not only having classy displays, but multi-coloured, lit-up keys that replicate the coloured key zones when using NI software. The Komplete Kontrol software has also recently been updated to v1.5 and you get a bunch of free Komplete Select NI plug-ins, plus the fact there's a brand new 88-note version. That's 88 lit-up multi-coloured keys. Swoon.

Price **£369-£729**Contact **Native Instruments** on +44 207 9207500Web www.native-instruments.com

→ Mobile music making

There are hundreds of apps to help you make music, but what about the gadgets you need to help you get the best from them? Here are the finest keyboards, controllers, interfaces, mics and speakers...



KEITH MCMILLEN INSTRUMENTS K-BOARD

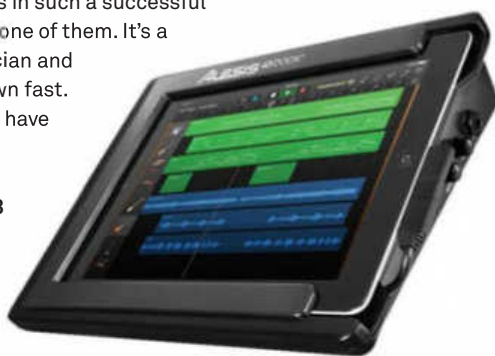
Keith McMillen Instruments makes some of the coolest gadgets for music making on the planet and the K-Board is consequently not the only piece of the company's tech to appear in this feature. If you are prone to getting inspiration for music on the move, or simply don't have a lot of space for music production then look no further than this. It has touch-sensitive keys and is a plug-and-play USB MIDI keyboard that is affordable, durable and even available in different colours. It slots very nicely at the front of your laptop and the lead is long enough to play it (slightly more) remotely. We tested it with a laptop running Logic and the iPad and it rose to the occasion each time. "Once in a while, a product comes along where you think, why hasn't anyone else executed this in such a successful way before? And the K-Board is one of them. It's a must-have for any mobile musician and anyone wanting to get ideas down fast. Flashing lights and playing keys have never been so much fun."

Price **\$99**

Contact **MSL Pro: 0207 118 0133**

Web **www.keithmcmillen.com**

The Keith McMillen Instruments K-Board (above), Alesis I/O dock (below) and Novation iTrack Dock (bottom)



ALESIS I/O DOCK NOVATION ITRACK DOCK

We love the iPad but, to be honest, Apple didn't really design it completely with music production in mind, so producers need a clever way to expand their iPad into a more rounded audio and MIDI recording environment. Enter the Alesis I/O Dock and Novation iTrack Dock. Both allow you to plug iPads in to expand on their connectivity, and both therefore turn them into more usable interfaces. The Alesis is a good-all-in-one solution with great-sounding recordings and the ability to charge your iPad as you work with it. It's also the most competitively priced. The Novation is similar but fits around the



WHATEVER HAPPENED TO...

Yamaha Tenori-on

The story of the Tenori-on follows a similar path to Jazzmutant's. Both were released to critical acclaim, both tried to do something a bit different and both were adopted by cool musicians. Both have also ended up as iOS apps with the original hardware only available second-hand. But the original Tenori-on is worth tracking down for its light show sequencing and the fact that you could quite easily put together a multi-track tune – albeit a very FM sounding one – in no time at all. It'll probably be worth a few quid too... <http://uk.yamaha.com>



iPad a little more awkwardly, but can certainly integrate easily into your setup – however you wish to use it. Both are genuinely good solutions to taking your iPad noodlings into your studio environment and getting audio or instruments from the outside world into your iOS device.

ALESIS I/O DOCK

Price **£119**

Contact **InMusic or Alesis via website**

Web **www.alesis.com**

NOVATION ITRACK DOCK

Price **£169**

Contact **+44 1494 462246**

Web **uk.focusrite.com**

FENDER FOCAL PASSPORT STUDIO MONITORS

How many portable monitors can you get with the quality monitor name that is 'Focal' written on them, not to mention the quality, er, guitar name that is Fender. OK, these aren't quite battery-mobile, nor as 'take anywhere' as the Bluetooth offerings we have here, but the Passports are portable in the sense that if you do a lot of mixing in a lot of places – if you are a flash Harry with lots of studio spaces or work on lots

/// The K-Board is a must-have for any mobile musician and anyone wanting to get ideas down fast ///

of other people's music, that is – then these offer the same listening experience wherever you are (bar, naturally, studio acoustics that is). Reviewer Huw Price noted: "Judged purely as studio monitors, the level of detail and solidity of the imaging is certainly commensurate with the price point. But the defining feature is that the Passport Studio system can be locked together and transported without the need to preserve the packaging or buy a flightcase. Then you simply split them, set them up and they're good to go. This is a cleverly designed, carefully thought out and



affordable product that fills a niche in the market. An interesting concept that's well executed and priced – and they sound pretty good too.”

Price **£490 (pair)**

Contact **Fender GBI 01342 331700**

Web **www.fender.com**

BLUETOOTH SPEAKERS

While the Focal speakers give you the studio quality you need, they're not quite as convenient as a good set of Bluetooth speakers, that are all the rage at the moment. We're including two sets – both good in their own right. The iLoud is the Bluetooth speaker of choice for the *MusicTech* office and has been providing sterling service for listening and the odd small office test for a year now. It's easy to set up, sounds great and is certainly good enough to mix on while you're away from your studio with the view to returning to your proper setup to do the main mix/master. Creative Muvo Mini, on the other hand, is smaller, cooler and redder. We review it next month, concluding: “It's portable, sounds louder than it should, and lasts for 10 hours in the rain. What more do you bloody want?”

iLOUD

Price **€199.99**

Contact **IK Multimedia via website**

Web **www.ikmultimedia.com**

CREATIVE MUVO MINI

Price **£49.99**

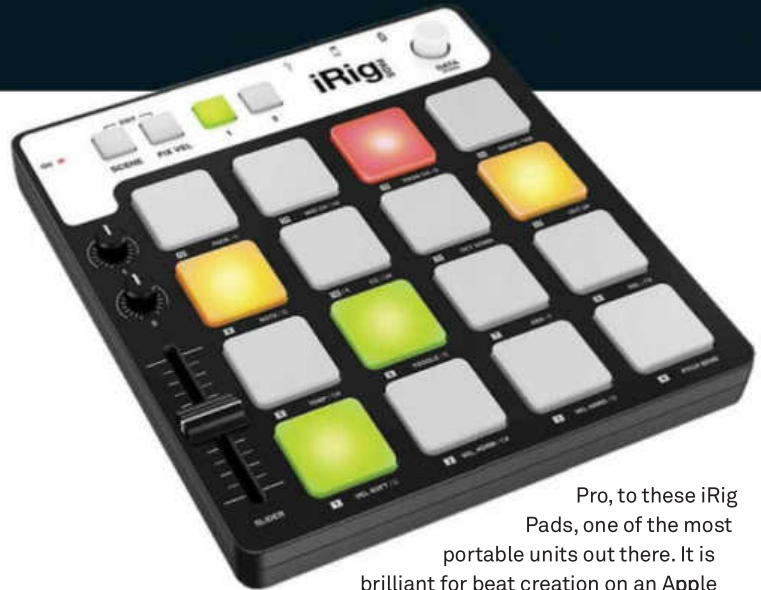
Contact **Creative on**

020 8208 9930

Web **www.uk.creative.com**

IKM IRIG PADS

With grid-based controllers more popular than ever, there's a lot of choice for the musician: from large-scale control and instrumentation with Ableton's Push 2 and Novation's LaunchPad



Pro, to these iRig Pads, one of the most portable units out there. It is brilliant for beat creation on an Apple device, and likewise with the bundled

SampleTank 3SE for your Mac or PC, which offers 6.5GB (for an additional €80) to take your creativity beyond the beats. With everything programmable, it'll work with APCs, Live, Native Instruments' Maschine, GarageBand and so on, and will save up to 16 scenes to work with such software (it ships with six presets). It is hugely flexible and highly portable (its depth is particularly thin). The emphasis is definitely on grooves and dance, but if you want extra 'i-Control' and are perhaps tiring of touch, this is a worthy option. A compact, sturdy and portable unit that makes a useful, tactile addition to your i-based studio.

Price **€119.99**

Contact **IK Multimedia via website**

Web **www.ikmultimedia.com**

APOGEE ONE FOR IPAD

Apogee describes One as ‘the first studio quality microphone and USB audio interface for iPad and Mac’. That's a little bold, but this is certainly one of the first proper interfaces that you can get for your iOS device, tailored for the discerning studio recordist looking for pristine audio quality. Apogee One will charge your device, connects to Mac and iPad, and has instrument and mic inputs. The Maestro software works with Mac and iOS and as we noted in our review: “the sound quality of the mic is surprisingly high and the software makes the interface very versatile. Overall, One is a very useful high-quality mobile tool. It excels at being a great travelling companion, especially with its high-quality onboard condenser microphone.”

Price **£289.00**

Contact **Sonic Distribution**

on **0845 500 2 500**

Web **www.sonic-distribution.com**

The iLoud (below) has been keeping the *MusicTech* team happy in the office with its high-quality sound, decent volume and portability



→ Out there

Speakers that light up, guitars with touchscreens, and beat-making clip machines – it can only be the gear that defies categorisation. Here, we round up some of the coolest, best looking and sometimes strangest gadgets out there...

NUMARK LIGHTWAVE

Before you say we'll include anything with decent lights, no we won't. But when you attach them to a pair of ruddy great big speakers that sound good and rock along with whatever you are listening to and mixing, then what's not to like? Numark's Lightwave speakers have literally lit up our studio this year, packing a volume easily good enough for a house party at half level and more than capable of holding their own outside on a medium scale. The sound is clear, too, with little distortion at high levels. We tried plugging in everything from phones and laptops to keyboards, and were pretty impressed with the results. And the lights even more so, as you get several patterns and can choose the colours and brightness of each or have rotating ones. The Meter option is the best, exhibiting the meters of a mixer, bouncing along with your music – but that might be the inner music production geek in us trying to get out. OK, these aren't mixing monitors really (although do play your mixes on them for comparison), and they're not to be taken too seriously, but they're solid, sound good and will add a bit of colour to your (probably already colourful) setup.

Price **£219.99 (per speaker, street)**

Contact **Numark via website**

Web **www.numark.com**



EDITORS KEYS BACKLIT KEYBOARD

Well it's just a standard keyboard, right? OK, it has some labels on for your DAW shortcuts, but what's the big deal? Back-lit? Ah, now you're talking. Yes, when it comes to gadgets, manufacturers know that by adding lights to something it makes that something about 1,000 per cent better! So the Editors Keys Backlit



Keyboard might not be the most essential gadget you'll ever need, but it could be the most essential gadget you'll ever need. Martin Delaney said in his review: "There's a lot of visual feedback – each key has an icon and a text label on a coloured background – the colours are grouped according to the type of function they represent, which is a good idea. During the review period, I discovered that this keyboard divides Live users into two camps: namely, 'I don't need this!', and 'Wow, this is awesome!', so I understand there's an audience for this. There's a big cool factor that'll sway a lot of people; having a backlit-dedicated Ableton Live keyboard will impress your Live-lovin' friends. If you're one of the many Live users excited by this idea, you won't be disappointed!" We can't wait for the Logic version. Watch this space...

Price **£99.99**

Contact **via website**

Web **www.editorskeys.com**

KORG CLIPHIT

It looks like a large egg, but you take the three clips that attach to this Korg percussion gadget – plus a footswitch – and attach them to any beatable surface (think table top, item of clothing and so on). Striking that surface then triggers one of the onboard sounds for instant beats and jamming mayhem. The speaker and resulting sound isn't going to win too many pro-quality awards, but the Cliphit is easy to use, great to practise or busk with and tremendous fun. "The kits are good enough, ranging from standard, through rock and pop," we said. "It's another great curveball from Korg. We love the idea, and we love Korg for coming up with this leftfield gear. It's the ideal device to unleash your finger and toe beats."

Price **£99**

Contact **Korg on 01908 304600**

Web **www.korg.com/uk**

KORG MINI KAOSS PAD 2S

The number of Korg's Kaoss gadgets is becoming a tad confusing to us, we must admit, but the KP2S represents a refinement in a technology that has been around for more than 15 years now. It is described as 'a powered-up Mini Kaoss Pad 2, the Mini Kaoss Pad 2S is a powerful DJ effect unit that fits in the palm of your hand'. It includes a touchpad in the centre, and retains the large number of effects of its predecessor (100 in total), but adds sampling (explaining the 'S') to the mix, so you can use the device as anything from simple

WHATEVER HAPPENED TO...

Misa Digital Kitara

The shape was most definitely guitar-based, although the Kitara also had a touchscreen slap bang in the middle of it and used an open source software platform to make sound. This included onboard synth tones and could be played by way of 144 buttons along its neck. You'll notice that we are using the past tense as, according to Misa Digital: "The Misa digital guitar was an experimental instrument, similar to an electric guitar in shape, but with an interface designed to easily and intuitively control digital audio. It is now discontinued." However, the replacement Tri-Bass, which is more of a MIDI controller with touchscreen is still available, although it's sold out at the time of writing. www.misidigital.com



recorder to mobile vocoder. When we reviewed it we said: "Using the device is tremendous fun, of course, and it is perhaps more a mobile gadget for the performer than producer. But the recording option adds to the studio experience, and the more you work with it (and the smaller your fingers) the more you will sonically reap. It's an evolution of an ageing concept, but the KP2S is small and perfect in many ways."

Price **£119**



The JamHub GrenRoom may look a little like the Millennium Falcon from Star Wars, but it's actually a highly useful rehearsal tool for bands



Contact **Korg** on 01908 304600

Web www.korg.com/uk

JAMHUB GREENROOM

In a band? Make a racket when you rehearse? You could probably do with one of these. Essentially, it's a box that each band member plugs their instrument into, plus a set of headphones out so they can hear their playing together with the band, but the neighbours can't. A simple idea, and genius in execution. Obviously, it doesn't work so well if your drummer insists on using an acoustic kit and your singer's wailings will still get heard, but it's one of a kind, and we said: "The GreenRoom excels at providing an attractive, compact and convenient way to rehearse silently at home or on the move. It combines all the essential bits of kit necessary to enable virtually silent ensemble rehearsals in one well-designed, compact and lightweight package."

Price **£420**

Contact **SCV Distribution** on 03301 222500

Web www.scvdistribution.co.uk

NUMARK ORBIT

The Numark Orbit has been around for a couple of years, but came to our attention only when we were chased around the NAMM show by a Numark representative demoing it live on stage earlier this year. So traumatised were we by the incident that this



Launching at AES: Pro Tools | HDX interface cards for Atlas and Titan



ATLAS

TITAN

Prism Sound quality is more affordable than ever thanks to the explosion in music creation.

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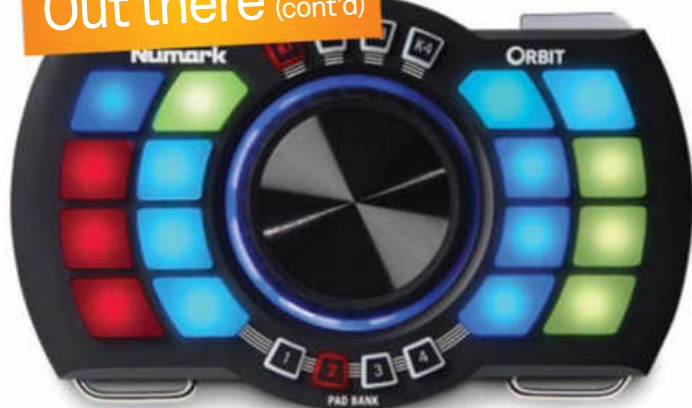
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Out there (cont'd)



The Eigenharp range is probably the most intriguing of all the gear we have in this round-up

is the first time we've been able to write about it... It's a live performance DJ controller with several modes of operation, but think of it in terms of coloured buttons/pads and banks of operation plus motion control, which allows you to assign parameters via the unit's shoulder buttons. So, moving it here there and everywhere – rather like the scary Numark rep – will yield some interesting performance results. OK, it's not for music production, but it looks cool and could add a flourish to your live show. See, we're over the incident already...

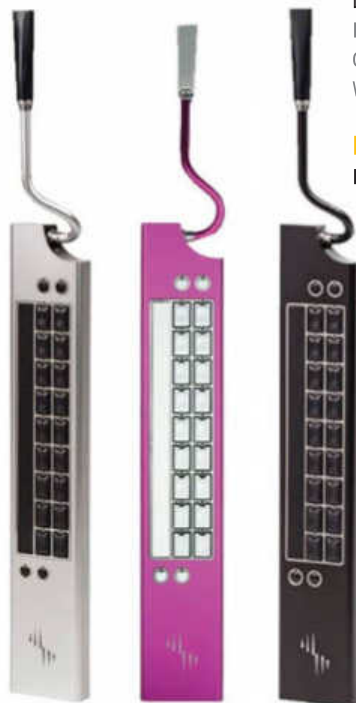
Price **£79**

Contact **InMusic** via **website**

Web **www.numark.com/product/orbit**

THE EIGENHARP

The Eigenharp range of instruments is probably the most intriguing of all the gear we have in this round-up, arguably the most serious – in terms of its musical aims – and certainly the most expensive and expressive. Eigenlabs formed 15 years ago, an English company with enough investment to have produced three instruments since 2009, the top-end version being the Eigenharp Alpha at £4,950. The instrument uses 133 keys and two ribbon strips to play notes and samples and 'can play and record loops, change scale and key, transpose, alter tempo, program beats, create arrangements, switch and layer multiple sounds, all while the musician is performing live on stage'. We're talking about a completely new concept here, but several players have adopted the instrument, including Scanner (we saw one when we interviewed him). The less expensive Pico, at just £459, and the latest model Tau (£2,395) expand the concept. It's the only 'gadget' (and we feel as if we're demeaning it a little by calling it that) here that we



The Eigenharp (above) has 133 keys and two ribbon strips and is a totally new concept that we can't wait to test out

WHATEVER HAPPENED TO...

airpiano

Not unlike a theremin in its touch-free action, the airpiano is played by way of a user gesturing above it, with keys and faders represented according to position above a wooden plank-like instrument complete with red LEDs. "We strongly believe that the airpiano introduces a new user experience, a magical and cool performance tool and an experimental instrument to explore," so says the website, but adds "airpiano was developed in Berlin, Germany by Omer Yosha. Unfortunately, the airpiano is now sold out and is no longer in production." airpiano.de



haven't tested, so we'll make amends and get one in ASAP.

Price **£459 to £4590**

Contact **Eigenlabs** on **+44(0)1392 823000**

Web **www.eigenlabs.com**

MOOG THEREMINI

It's a theremin, and a cool-looking 1950s-a-like one that is affordable and, as these things go, pretty versatile too. The unit is a little plasticky, but is a dream to use. For example, when changing scales you learn more about the subject in two minutes using the Theremini – simply playing it up and down within the categories – than in a previous lifetime of listening to music theory. All manner of parameters – some obvious, such as pitch and note range – are adjustable, and there's a good delay effect to add some variation. The 32 presets take it away, but not too far away, from that eerie whistle; in truth, most are of that ilk, and we could have done with some more varied tones to really experiment with. "For those after an easy intro to the world of the theremin and the other-worldly nature of its sound (it's also worth delving deeper into the fascinating life of its inventor if you have time), there's no easier way.

An easy theremin to get into, both practically and financially. It's a little lightweight, but bang for buck this thing whistles like no other."

Price **£259**

Contact **Source Distribution** on **020 8962 5080**

Web **www.moogmusic.com**



GADGETS THE FUTURE

And so, finally, to the future. Here are just some of the gadgets for music making that we will be lusting after very soon...



Price **£599**
Contact **ROLI** on +44
(0)20 7254 2155
Web www.rolli.com

ROLI SEABOARD RISE

"We didn't expect to be quite as impressed with Rise as we are. It's a genuinely new piece of hardware that will expand your performance and recording creativity. It looks stunning and, with the Equator synth thrown in, can sound that way too." We needn't say any more about ROLI's new 'keyboard' here, as the full and extensive review is on p60, but you can probably gather that we think that this is a future gadget well worth trying...



AKAI MPC TOUCH

Akai is on a bit of a roll at the moment. For years, this company was on the cutting edge of both sampling and, with the MPC range, beat creation and performance. Then it went through a rather fallow period as sampling disappeared into the computer, but InMusic's acquisition of the brand has given it a new lease of life and we're now forever banging on about its Advance range of keyboards. So this new MPC –

Price **£499**
Contact **InMusic** via
website
Web www.akaipro.com

complete with a 7" colour multi-touch display – could well be another blinding piece of kit. It features 16 velocity-sensitive pads with RGB backlighting, a step sequencer with the touch interface, a phrase looper, XYFX real-time dynamic control, four other real-time controls and more than 20GB of content. It also acts as a 2-in/2-out interface, should you require it to. We are particularly excited about the Touch side of things, with the unit promising a new level of control over your waveforms. Akai says: "Literally grab and pinch waveforms, draw MIDI events, adjust envelopes, chop samples, add effects and precisely set your controls using your fingertips." Even more exciting is the fact that Akai could then bring this type of screen to the Advance range, Take note NI and Ableton. Something to include on the next version of Maschine and Push?



GADGETS THE FUTURE (cont'd)

ROLAND BOUTIQUE

We preview the new Roland range – tomorrow's gadgets based on yesterday's synths...



Roland is like an explosion of retro at the moment, making up for a decade or more of avoiding updating its classic back catalogue of synths and electronic instruments by releasing multiple versions of several classics in the space of just two years. We've had AIRA, which features in our computerless section; then there's the hardware-software hybrid that is System-1; Eurorack digital effects; and classic analogue synthesis reborn into System 500. Boutique is a range of digital mini synths based on the classic Roland

Roland is making up for a decade or more of avoiding updating its back catalogue

Jupiter 8, Juno 6 and JX synths. It's a surprise, as it doesn't fall into any of the aforementioned categories, so it seems Roland isn't just making up for lost time but travelling down as many retro paths as it possibly can. This is one horse, it seems, that could run and run.

The JP-08 is the most attractive of the three, simply because it is based on the iconic Jupiter 8 synth. It has 36 of the original synth's parameters, plus extra waveforms and an expanded VCO range. Somewhat annoyingly, there are only four voices of polyphony, unlike the original Jupiter 8, which had eight – the clue is in the name – so maybe it should have been the JP-04, although Roland says you can chain two together to give you those eight voices. O...K... In practice, this means that you are going to find yourself lacking when playing some of the very big sounds, particularly in Dual mode.

There's no doubting the appeal of this box, though. It's a Jupiter 8-a-like, and with Roland's new digital version of analogue, as used on the AIRA range, the sound can be very much like the real thing – with it often conveying both that early-80s wobble funk and large pads made so famous by the original. 64 presets explore that sound and the Unison, Poly and Solo modes – so popular on the original – are available via a couple of key presses. This very much helps you get close to that character and help get towards that famous 'big' JP sound, again particularly in Dual Mode.

Other features on the JP which should be noted are that there's a 16-part sequencer on the unit. We've never been that fussed about onboard sequencers, preferring to use our DAWs but, like a lot of new hardware, the Boutique range is aimed very much at standalone users, so having that sequencer will be a godsend. The JP module, like all three in the range, can be plugged into a K-25m keyboard – more on this later.





/// Roland has included some extras: new waveforms, expanded DCO range and modulation ///

The JX-03 is based on the JX-3P, very much a push-button analogue synth, but one that came alive with the then-optional PG-200 programmer that had 24 rotaries to control the JX-3P's parameters. Yep you've guessed it, Roland has merged the two into the JX-03, a 4-voice synth module that can again be plugged into the separate keyboard (or be controlled via your own MIDI keyboard). And, again, Roland has included some extras over the original: new waveforms, expanded DCO range and modulation options. There are also 32 presets and that 16-part sequencer. These presets are divided up very much like synths back in the day used to do things with

uRemote uTrack-X32 Info

Song-1 My X32 can record 32CH!

Next: Song-2 Plays back 32CH too!

Elapsed Time: 01:23:14
Remaining Time: 02:50:01

01:23:14 02:50:01

cymatic audio
www.cymaticaudio.com

uTrack x32

32 channels direct-to-USB Recording + Playback for X32/M32 Consoles
Also works as a 32x32 computer audio interface

GADGETS THE FUTURE (cont'd)



emulations of instruments like violins, flutes and oboes alongside synth bass, strings and so on. No surprises that the 03 scores best on the synth side, and it's an area you'll want to explore further; you'll unearth plenty of memorable Roland joy along the way, as you will with the other two modules as they've all been used on classic synth tracks. We'd rather forget some of the emulations though, and maybe Roland has copied the original just a bit too much here!

Finally, the JU-06, based on the original Juno-106 single oscillator synth. It looks pretty much identical to the original, albeit in miniature. You get four voices of polyphony – again you can stack units together to double this – and again you get onboard speaker, 16-track sequencer, and the ability to connect to the K-25m keyboard. The unit has 23 controls on the front panel to replicate those on the original and adds a faster LFO and a continuously variable hi-pass filter to give it a smoother sound. On this, the original is famous for pads and thick basses with a sub oscillator



given the price. We'd have loved a larger jack connection though, but the smaller ones do fit with what Roland has aimed for with the range.

Of the three modules, the JP has the most obvious draw, replicating all of the controls of the original and getting very close to the sound. We love Dual Mode and other modes from the original that are included, although we'd have preferred eight voices of polyphony to start with. As for the JX, it has the sounds of the original with the PG control – very much the JX that people have always wanted. The JU-06 is lovely and punchy and perhaps the easiest to get to grips with if you are a fan of the original.

Overall, the units are solid and portable and the battery operation and onboard speaker puts them right there in the Yamaha reface camp, but unlike those you are not hamstrung by the keyboard, as the K-25m keyboard is optional so you're not stuck with one that you don't want (*a la* System-1). We do like the way the modules angle within the K-25m, but as they are such good value – and you will probably want to stack at least a couple of JPs together – you might as well use your own keyboard of choice.

Then there's the sound. This is the digital version of analogue that the AIRA range utilises, which in general we're big fans of. Analogue purists will shun them – possibly should shun them – but given the size and price, the target market for these is not the analogue purist anyway. Generally, the sound is a lot bigger than you'd expect on all three units in the Boutique range, but that is probably down to the size compared with the originals.

We'll always welcome back these classic sounds, whatever form they are in...





The fact that they all have onboard presets is a big bonus when compared to the reface range, which leans towards app preset management, although we'd still like an app to carry out some of the work here – perhaps Plugout software, too? The ribbon operation is cool and we also like the fact that you can use all the modules as USB interfaces (and power them via the standard, too). Further on the plus side, the range exudes the kind of take everywhere philosophy that we love about Yamaha's reface, not to mention the retro chic. In that sense, these should do very well for Roland and there should be plenty of takers leading up to Christmas for classic sounds and control for relatively little outlay.

However, as has been the case with Roland in the past, it could be the company itself that becomes the problem. System-1's Plugout idea allows classic

synths to be effectively loaded into the shell that is the System-1 keyboard. If the Jupiter, Juno and JX come out for that, you'll have a strong reason not to buy these. "if the models do come to the Plugout range then why would anyone buy the Boutique hardware units?" notes one forum poster on Roland's own YouTube channel. So, again, we come back to Roland's scatter gun retro strategy – to release loads on every format – and that could be its undoing. Having said that, when you're talking about such classics, we'll always welcome these sounds back, whatever form they're in...

And you might want to forget any negatives right now, because now we are talking cash. The street prices look very much like being £229 for each unit, although the JP-08 is going for £299. Either way, that's pretty damn good value and about 10 per cent of the price you'd pay second-hand for the originals. One final point is that some retailers are stating that these are limited-edition models – certainly they do seem to be in short supply, but that could be hype (something Roland has been guilty of in recent years – see the AIRA range on p12). It's taken the company 20 years too long to release something everyone's been crying out for. To then make it a limited edition is somewhat odd, to say the least, but some of us have been trying to make sense of Roland for the best part of three decades and are still none the wiser, so we wouldn't put it past them... **MT**

Price £229 (£299 for the JP-08); K25M is £75
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Before



MT Feature DIY Studio Special

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Monster Traps x 2 =	£190.00
244 Traps x4 =	£240.00
Brackets & Stands =	£95.00
	= £1418.80
<hr/>	
(+VAT) =	£1,702.56

Part two

After

Welcome back to my diary charting the journey of finding and treating a studio room. Last month we looked at the process I went through to find a studio space in Bristol, and then discussed a whole load of factors – such as location, security, transport and insurance – which are worth considering before you move in. This time we'll get on to the fun bit of actually getting all of the equipment setup and treating the room itself.

Testing Time

We moved all our equipment in under the cover of night and were up and running in a couple of days. At first, it was very odd to hear a set of speakers that you know inside-out in a completely different environment but we were just about able to get some work done. However, the next big step was to get the room set-up properly.

For testing duties, I was using the small pencil mic that came with my KRK ERGO Room Correction Unit, but any similar condenser will do the trick. It just needs to be omnidirectional to pick up the entire room, with a linear response across the frequency range, such as the reasonably affordable Behringer ECM8000 (£44).

Ideally, you'll also need some software which allows you to display and compare frequency graphs, waterfall graphs and reverb times, which are three different ways of measuring your room. The obvious choice for many is Room EQ Wizard, which can be

downloaded free for Mac and PC via the Home Theatre Shack forum. Although this is an extensive bit of software that we're told works fine on PC, it didn't want to 'play nice' with my Mac and Firewire interface so I had to look elsewhere. I ended up using the Mac-only Fuzz Measure Pro 3 (\$150) by SuperMegaUltraGroovy which, although is a little pricey, had all the features I needed for the task, and there's also a free 14-day trial version. Since then, Fuzz Measure has been updated to 4.0, which is "Completely redesigned for OS X Yosemite", and it's now available for \$99 (www.supermegaultragroovy.com).

Once you've setup your mic, on a stand in the listening position, you simply blast a fairly short and loud, full-range sine wave sweep through your system (in my case a KRK sub and two KRK monitors), and you're presented with a high-resolution frequency plot just moments later. You might want to consider wearing ear plugs for this as you'll probably be taking quite a few readings. You can also opt to see the readout as a Reverb Time bar graph or the colourful and arguably most useful Waterfall Graph, which shows both the frequency and decay times in a single 3D display. This type of graph is especially useful for assessing low-end modal ringing, as you can see which frequencies peak and ring out longer than others.

A word of warning: after my first test things proceeded in a downward spiral, into the strangely addictive game of what I like to call test, tweak, test. You do a sine sweep, then make tiny adjustments to



→ your room, then test again to see if the differences have improved or worsened the results. As I was soon to find out, if you have a 'perfectionist' type of personality this can become a bit of an obsession! If you're keen on getting the most accurate results possible, then you'll want to find and install a calibration file for your specific microphone, which allows the software to balance out any micro-anomalies. You can also perform a loop-back

/// To really tighten up the room's acoustics, we needed to call in the big guns ///

measurement using an additional output and input on your soundcard, which essentially means creating a feedback loop so that the software can determine and make allowances for any subtle discrepancies in the soundcard. In practice, as long as you have decent quality kit, these things aren't really necessary.

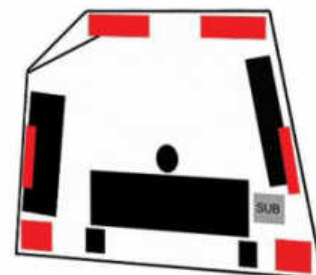
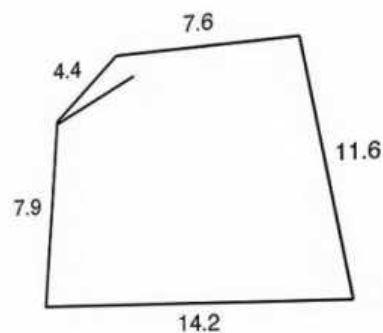
Call in the pros

It turned out that my writing partner had a whole load of dusty acoustic foam in his attic, including plenty of small square panels and a couple of bass traps. In a moment of unknowing genius, our landlord had decided to line the walls of the studio with felt to help slightly deaden the sound. It just so happens that the foam panels stick to the felt and were easy to rearrange without using any glue or spray mount. Bonus! Alas, the actual affect of these panels was pretty minimal.

You can pick up a pretty extensive Auralex room kit for around £500. This might seem like a cheap option, and they certainly helped a bit, but to really tighten up the room we needed to call in the big guns. There are several companies that deal with the higher end

Above: Room EQ Wizard is an extensive – and free – piece of software for taking room measurements, available via the Home Theatre Shack forum

Right: The room, before and after – the latter showing the final placement of the desk, sub, furniture and other kit. Note that there are also two panels on the ceiling, centred above the listening position. Note: dimensions are in feet and the height was 7.11.



of acoustic treatment, such as RealTraps or CM Acoustics, but we decided to go with GIK Acoustics, whose UK home is based in Bradford and run by a chap called David Shevyn. GIK manufactures acoustic treatments in the UK and North America and treats over 5,000 rooms annually – from studios and home theatres to churches and auditoriums. (www.gikacoustics.co.uk / www.gikacoustics.com).

The company's Greensafe credentials, meaning that eco-friendly wood and materials are used, were a bonus, but the real reason we chose GIK was the way in which advice was offered on the company's website. Once you've measured the exact dimensions of your room, you fill in an Acoustic Advice Form, which asks for such details as the floor surface covering, your ideal budget and the sound issues that you're experiencing. The online form also invites you to send up to four photos or drawings of your room so that GIK can form a better idea of the optimum treatment. I promptly whipped out Photoshop and put together a crude line drawing of the room, with blocks to show where the room furniture and equipment was placed, and sent off all the info plus a few photos of the space.

I was then put in touch with Bryan Pape, the 'lead acoustician' at GIK's US branch, who sent over a review of my room along with some suggestions of pieces from their range of traps and panels. What then followed was a fairly extensive back and forth, as we worked through how to get the best out of the room. Although the unusual shape meant that there were less waves piling up in the centre of the room, its lack of symmetry made the measurements somewhat unpredictable.

To my surprise, Bryan's first suggestion was to try moving the listening position and the entire setup. Although our initial decision on where to place the desk and monitors seemed natural, it hadn't occurred to me →

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The first delivery of the lovely red panels we ordered from GIK Acoustics, prior to adding them to the room

→ that completely re-organising the whole room could give better results. This was one of the first big lessons and eye-openers which made me realise that I was going to need time and patience if I was going to get this right. After a lot of faff and shifting furniture, I sent off three different sets of measurements for three completely different room setups. Luckily, there was one obvious winner: it was the complete opposite of where we'd initially placed the desk and speakers.

It's a trap!

Now that we had this setup and the readings, Bryan suggested a batch of panels from their product catalogue to get us started. We were mainly interested in tightening up all the decay times, especially in the low-end, so the first delivery arrived by courier and included two 244 bass traps, two Monster Bass Traps, and two Soffit Bass Traps (see the *Buyer's Guide* on page 26). The 244s and the Monster traps are slab-shaped, with the larger Monster panels being placed at the back of the room, and the 244s on the walls directly left and right of the listening position. The Soffits are longer and squarer in shape – not sure if there's a better way to describe them, check out the pics – and as such fit well into the corners of the room. It's when you see these beasts in person that you begin to appreciate the difference in size and quality that a specially-made panel has over a simple piece of acoustic foam. Bass is big and powerful so if you want to tame it, you need something equally large and robust! When we ordered from GIK, we had the option to choose from a wide range of colours and went with a vibrant red. They also offer images printed on to the panels at an additional cost, but we figured that a band logo might have been going a bit too far...

What followed was an extensive game of test, tweak and test, as the panels were inched around

the room to get the best results. One of the most important pieces of advice Bryan gave was to try not to have the listening position in the middle 40-60 per cent of the room length. Although I was trying to keep an equilateral triangle between my seat position and the monitors, we also concluded that it was more important to get out of the middle of the room than it was to be an equal distance from the speakers.

Typically, you'll lose some bass response if you move your head too close to your monitors (homework: read page 30 of the excellent book *Mixing with Your Mind* by Michael Paul Stavrou: www.mixingwithyourmind.com), but this wasn't necessarily the case here, as I have a separate sub in charge of bass duties placed elsewhere in the room. To my surprise, the best results also came with the monitors backed up as close to the wall as possible, but with care taken to make sure that they weren't exactly parallel to the computer monitors. Upon reflection, it made sense, because you're reducing the possibility of additional waves bouncing out the rear of the speakers and off of the back wall.

Final Placement

Once I had a reasonable first set of results, we decided on where best to place the second and final clutch of panels.

■ Bass is big and powerful so to tame it, you need something equally large and robust ■

■ MTM PRO TECHNIQUE

● Calibrating your Sub and Speakers

It's no use spending heaps of money on a high-end treatment if your speakers aren't placed and set-up properly. This becomes even more important if you're using a matched subwoofer to handle the bass frequencies. The best way to locate the optimum position is to place the sub in the listening position and walk (or crawl) around the room while playing a run of sine wave bass notes. Wherever the bass sounds smoothest and most even is a good place to start.

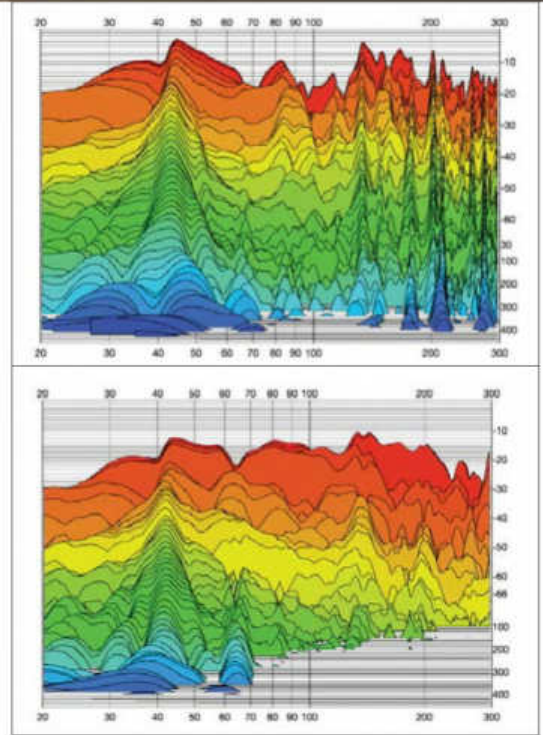
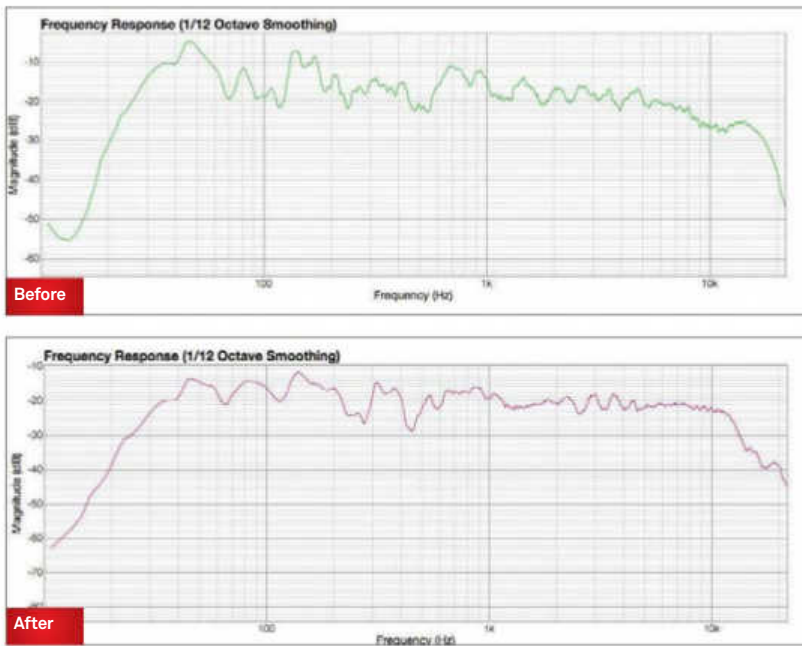
As a general rule, you'll feed the stereo out from your mixing desk or soundcard into the stereo in on the woofer, and then take left and right cables out to each of your monitors. There should also be a dial on the sub to control the crossover, with 80Hz as a good starting point. Try routing a band-limited pink noise test tone (500 -1000Hz should affect only the monitors) through the system and set the overall volume of the speakers to read 85db on an SPL meter (get a cheap iPhone app). If that's too loud, you may want to shoot for nearer to 79dB. Run another test tone of 35H-70Hz to target the sub, and set the same volume level. You should now have a volume-matched system.

The final step is to check the phase alignment of the sub, as an out-of-phase signal will result in a dip or a boost around the crossover point. Turn the crossover to its highest and play a 60-120Hz pink noise tone. Try flipping the phase switch and leave it in the position that sounds the loudest. The test tones on this issue's DVD will help...

Once you've got all of your panels and treatment in place, you'll want to spend a decent amount of time doing multiple tests with your sub placement and crossover point, in order to get the best results possible. Simply moving the sub a foot at a time or changing the direction it's pointing can have quite a dramatic effect on the frequency response of the room, so it's well worth taking the time to get it right.

You don't have to match the makes of your sub and monitors but it's a good start. Adam Audio (www.adam-audio.com) offer an A7X and Sub 8 bundle for around £1,200





The Soffits sat half-way up the walls, in the corners either side of the monitors. We were keen to get another set to sit on top and completely fill the corners spaces of the room, from floor to ceiling. Unfortunately, after getting the tape measure out, another set wouldn't quite fit, but luckily GIK do a custom work and they shaved a few centimetres off so we could stack them. We also bought

Above: the before and after results with graphs from Fuzz Measure Pro 3. Note that the frequency graph, although it isn't completely flat, has much less variation. The waterfall graph is tighter in the low-end, with much less ringing out in the high-end

two more 244 panels, to put on the ceiling above the listening position, and a couple of stands to prop up the floor-standing Monster traps that we already had.

This new pair of Soffits had something called a Range-Limiter, which basically cuts off 95 per cent of the absorption above 250Hz, to really hone in on tightening the bottom end. We were especially happy →

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→ with these new additions, as the sonic results were dramatic. My partner, who's always complaining that he can't feel the bass, was especially happy, as it now felt like the sub-frequencies had shifted focus from the room's extremities to its centre. We attached the other panels to the ceiling using brackets and the help of the landlord and his drill and we were nearly all set.

/// If you're serious about getting good results, then you need to put in the leg work... ///

The final touch was to add in a bright red table cloth to the desk, to tie the whole room together! This also had the bonus of slightly reducing the reflections of the speakers bouncing off of the desk surface.

With a few more tests, and shuffling the sub a few inches here and there, we reached a decent set of readings that were much tighter than where we'd started. Most importantly, the sound of the room was much, much better. Everything felt closer, there was less ringing in the top end and the individual bass notes were much tighter and more even. We write bass-heavy dance music so this was godsend – subsequent mixes have come together much more quickly and translated well when tested on club sound systems.

As an extra note on the improvement, I did a room test using the KRK ERGO unit's software. This involves playing a loud blast of noise which sounds like a madman simultaneously playing 20 different notes on an organ, then pointing the calibration mic in different positions, to build up a set of readings and an image of the room. Once complete, it came up with a room score of 4/100 (previously it was 30/100), which basically means that it didn't have much work to do!

Done and dusted

So that was that. The room is now complete and we can get to work. I won't lie, the whole process – from initially searching for the room, to taking hundreds of measurements and moving things around – was lengthy. If you're serious about getting good results, then you need to put in the leg work and be willing to do multiple tests. You might think you already have the best room layout because of cable lengths or feng shui, but don't be put off testing other setups as you might find that you get much better results when you move things around, especially your speakers, sub and listening position.

In fact, the placement of the treatment was fairly simple, and it was the subtle adjustments of these three things which really fine tuned the results. As I was going in 'blind', it was really useful to have some experts on hand to answer my questions and suggest the best layout and products for the job. There's also an extensive 'Education' section on the GIK website, which some excellent articles to help get you started.

If you're worried about spending over £1,000 on sound treatment, look at it this way: you'll get more accurate mixes with £500 speakers and £1,000-worth of treatment than you will out of £1,500 speakers and no treatment! **MT**

■ BUYER'S GUIDE

● DIFFERENT TYPES OF TREATMENT

Pretty much all acoustic problems are caused by reflections off of the floor, ceiling and walls. As a basic guide, you'll want to place bass traps in the corners, broadband absorbers on the side walls and ceiling reflection points, and absorbers or diffusors on the back walls. However, you have to be careful that you don't have too much high-frequency treatment, as these decay much quicker than low-frequencies and you'll end up with a skewed result.

Most manufacturers will offer a range of options for dealing with problems in different areas of a room.

These are a few of the products offered by GIK

Acoustics (www.gikacoustics.co.uk / www.gikacoustics.com):

- 242 Acoustic Panel (£173 / three).
- GIK 244 Bass Trap (£144 / pair)
- Monster Bass Trap (£114 each)

These are full-range panels which come in a variety of dimensions and they're useful for absorbing most frequencies – the bigger versions offer greater low-end absorption. GIK also have Range Limiter options, which focus on the effects below 250Hz, and Scatter Plates, to help disperse high frequencies and provide an even decay time.

- Soffit Bass Trap (£229.14 each)
- Tri-Trap Corner Bass Trap (£238.80 per pair)

As most of the bass energy collects in the extremities of a room, these are specially built to fit. They offer extended deep bass control, even below 50Hz.

- Q7d Diffusor (£256.80 each)
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MT Feature Interview

LITTLE BOOTS

With a hugely successful debut album and collaborations with synth icons under her belt, Little Boots has become the ultimate DIY musician, both in and out of the studio...

The perception that men are the only ones nerding away in the studio is thankfully becoming a thing of the past, and Victoria Hesketh, better known as Little Boots, is the perfect illustration of why. The Lancashire-born synth-pop guru is a self-made musician and trained originally as a classical singer. She tried to climb the ladder the traditional way, and then via the TV talent show route until an off-putting experience on the now-defunct Pop Idol show enlightened her. Having formed the all-girl group Dead Disco in 2005, Hesketh realised that conforming to label expectations was yet another dead end.

With that, Little Boots was born. By networking on social media, Hesketh built a loyal following prior to the release of her acclaimed debut album, *Hands*. Little Boots' cross-generational appeal was later exemplified through collaborations with synth pioneers Gary Numan and Phil Oakey. However, with her third album, *Working Girl*, Hesketh has shown a willingness to shift between electronic pop boundaries, and it's in the studio where we find the songstress at her most comfortable, speaking enthusiastically about the tools of her trade.

MusicTech: How has your musical background or training influenced the artist you have become?

Little Boots: I was classically trained at school, then did a bit of a crash course in jazz piano and singing, which has been a huge help to my songwriting. There are so many rules that you can't break unless you learn them first! That being said, sometimes it's the simplest ideas that are the best, and it's



important not to over-complicate or theorise stuff; I just try and trust my ears.

MT: You had a bad experience when you entered Pop Idol. What happened, and how did that influence your career for better or worse?

LB: It was so long ago I barely think about it, to be honest. It wasn't that bad; I just got through a few rounds then didn't make the show. But I was so young and it was obviously for the best. I play and write my own music, so those kinds of competitions were completely the wrong place for me in hindsight. I just didn't really know how else to get started in the music industry; as a teenager, it seemed like the only way.

MT: Where did your desire to use technology to make music initially stem from?

LB: At college. I desperately wanted to be in a band, all the cool kids were, but I only played piano, which didn't seem that rock and roll. So I sold my harp, which I also played at the time, for a synth – a Korg MS2000. I didn't have a clue what it was capable of, but all the bands were into prog rock acts, like Yes, so I started to realise that synths could actually be pretty cool. I just kept experimenting, trial and error, with all the buttons and knobs, until I started to figure it out. When I joined Dead Disco, I got a MicroKorg, because Brandon Flowers of The Killers played one at the time and we were very much into the indie scene. He was a big inspiration for me, as he showed you could be a brilliant frontman and still play the synth at the same time.

MT: Do any modern artists influence you?

LB: Lots of modern artists influence me. I'm constantly searching for new music for my DJ sets, where I play lots of new artists and remixes, mixed with some disco edits and old-school house. There's some great new pop acts around. I'm really inspired by artists like Lorde, who seems so wise beyond her years, and doing things entirely her own way. I also love Grimes; she's created an amazing artist world around her music and won't compromise. And, obviously, Robyn is a huge inspiration to me, as are artists like Goldfrapp and Roisin Murphy, Maja Jane Coles, Annie Mac, Empress Of, Holly Herndon, Låpsley, Zhala, Robyn, and Miss Kittin. I'm sure there are many more. There's also some great groups, like female:pressure, shedding light on female producers and electronic artists.

MT: What gear did you initially obtain when compiling your first album, *Hands*?

LB: I work with a lot of different producers, so there's always new or new old gear in their studios. I was lucky enough to work with some really talented people, like Greg Kurstin, who just had the most incredible collection of gear, although I remember mostly falling in love with his Roland SH-101. Pascal Gabriel had some amazing synths, too. He introduced me to the Tenori-on, which I became known for playing, although I rarely used it in the studio. I always remember vocalling *Stuck On Repeat* with Joe Goddard at his home studio. He →

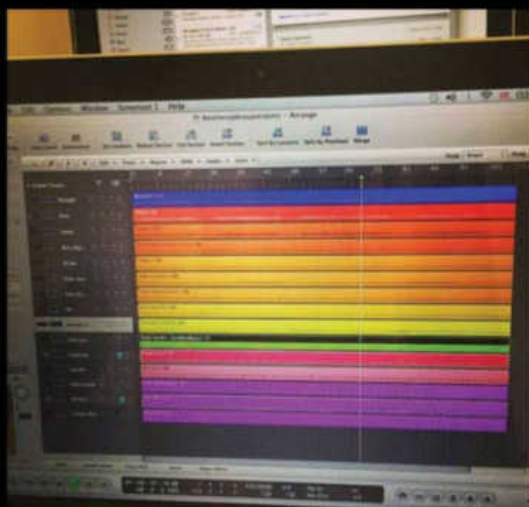
Little Boots' home studio has a fairly simple setup. She uses it mainly for songwriting



A positive verdict during the mixing sessions for new album, *Working Girl*



Victoria enjoys working within limitations – a laptop and a good DAW, what more do you need?



An electric piano, a couple of Korgs, a Moog and a Tenori-on are at the heart of Victoria's studio





Little Boots is a fan of working with analogue synths, such as this Oberheim OB-Xa

→ pretty much just had Cubase and a modular synth. I think you can often get the best stuff by limiting yourself and giving yourself boundaries – less is more.

MT: How has your studio evolved between *Hands*, *Nocturnes* and your latest album, *Working Girl*?

LB: My home studio is very basic. It's mainly for songwriting, so I just have an electric piano and a couple of key synths, my Korg Polysix, Korg MS-20, Moog Phatty, a few vocal effects units and the

“I write all over the world and at home, on planes and buses, in the middle of the night or driving around singing into my phone”

Tenori-on. I just got an Ableton Push, which I'm playing around with. There's lots of similarities between that and the Tenori-on in how they both use a matrix and sequencer, but the Tenori-on is a lot more visual and random. Some of its patterns and sequences are led by visual effects, whereas I'd say the Push is more functional.

MT: Any other nice toys?

LB: I have a bunch of keyboards and gadgets that are closer to toys, various old Casio sampling keyboards and stylophones and an old mini organ. I always prefer things that are small and tactile, and don't really like soft synths or getting too deep into programming. I'm more an ideas person, and usually need someone else to help me do the finessing. I was very lucky with *Nocturnes* because I got to work in Tim Goldsworthy's studio on the entire production. He's a genius. His studio is like

a mad laboratory, with patch cables everywhere. Often, I could only watch in wonder and go and make the tea.

MT: How does *Working Girl* evolve your sound, and how did you approach the album from a conceptual viewpoint?

LB: This record was written and produced with lots of different people, but I think because I had such a solid vision and focus for the album from early on, it always hung together. I tried to find lots of upcoming or unexpected producers to work with to change up the sound and make it more current, while still trying to push the boundaries for a pop song; working with artists like Com Truise and Grades. The conceptual theme is very much reflective of my own journey, from being a major label artist to starting my own label and regaining total creative control, but it's also a wider kind of fantasy that I think everyone can relate to; ideas around success and ambition, control and connectivity in the digital age, and the pressures it brings. But it's also fun and quite knowing; the album doesn't take itself too seriously, and I wanted to really express that with the aesthetic and the visual assets around the record.

MT: How long did it take you to write and record the album, and how did you structure that process?

LB: I probably wrote all the songs over a year, but the real job is bringing it all together, deciding which songs will make the cut and how to finesse them. It's almost a curation job, and now I have no official A&R person that can be quite challenging. A lot of the producers I found for myself and approached after hearing their work, or they were recommended by friends. I think that usually leads to better results than one record label boss ringing a big producer's manager and offering a big cheque to do a session with a new artist. This way, it's much more organic, and you already have a mutual respect for each other before you even start the writing process.

MT: Do you work from home or go to a studio, and what type of environment do you like to work in?

LB: It's always changing. I write all over the world and at home, on planes and buses, in the middle of the night or driving around singing into my phone or scribbling in a notebook, sometimes by myself, sometimes with three or four people. The one thing I've learned about songwriting is that there are no rules and no magic formula or secret to discover. It's always different and you never know where that magic will come from, you just have to have the confidence to try.

MT: Do you have a preference for either software or hardware? How does that inform your sound?

LB: I use Logic for my own writing and vocal recording and editing – I find it the most efficient. I've been working with it in one way or another since using it on my parents' PC when I was a teenager. For live shows and DJ mixes, I use



Ableton, and now I have Ableton's Push, I'm experimenting with it for writing as well because it's so fast and quick to get ideas down with. I'm not that keen on soft synths, although the Native Instruments stuff is pretty good.

MT: You have quite a bit of studio hardware too, right?

LB: For hardware, I've always been a Korg girl, and this has grown into a great relationship with them. I use their synths all the time, from the tiny portable controllers to the new analogue remodels to the Kaosillator. The Moog Sub Phatty, Dave Smith Prophet and Tempest synths have been invaluable to us in the live show and the studio – they just have great sounds and are reliable in a live environment. For writing on the go, I love my Apogee Duet. I can travel with it and plug it in anywhere and be ready to write. It has a very straightforward soundcard and a couple of inputs and outputs that make it very easy to plug and play, or record on the road or at home, so it's very immediate. Back in the studio, I like Sennheiser mics and use them both live and in the studio, but my go-to vocal mic is the Shure SM7B.

MT: Are you always on the look-out for new hardware? If so, what is catching your eye?

LB: I'm excited by the new Korg Odyssey. The new Moog Sub 37 looks good, too. I haven't used them yet, so I'm not entirely sure, but The Odyssey is a new version of a classic synth, and I'm hoping the Sub 37 will expand on what the Sub Phatty does, which I already have but might be even better.

MT: What's next on your shopping list?

LB: Lipstick and a really high pair of heels; you never know what's around the corner. A screwdriver often comes in handy, too. Other than shoes, I'm still hunting for a blue Roland SH-101 with mod grip to replace the one I had that got stolen a few years ago. Also, I recently just saw that Casio did a sampling keyboard in the 80s in pastel colours – just for girls, →

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“It’s no good getting lost for hours perfecting a sound then realising you don’t have a song to use it. **Song first, nerding after**”

Above: With no dedicated A&R person, Little Boots is enjoying being in charge of all aspects of her musical output

→ and they’re really rare. That has to be at the very top of my list!!

MT: When it comes to sourcing synth sounds, are you a preset user or a programmer?

LB: I often like to roll through presets for speed, then modify them until they sound right. They’re a good starting point, but you really just have to trust your ears. It’s no good getting lost for hours perfecting a sound then realising you don’t actually have a song to use it in. Song first, nerding after tends to be my rule.

MT: Do you mix in the box or on a desk?

LB: I don’t personally mix my songs, but I believe in using a desk. I’m not a very patient person and I’ve never really had the ears for mixing. I need to take some distance from the songs, otherwise I can’t get any objectivity on them. If I go too deep into a mix with someone I just can’t hear if I’ve made it better or worse, so I’m much better coming back after a bit

of breathing time and giving detailed notes to someone who mixes all the time.

MT: Does new technology excite you from a creative viewpoint, or is it more about using whatever tools you have at your disposal?

LB: I usually use whatever’s around me, but I do get excited when new gear comes out that feels relevant to me. I’m always looking for electronic instruments or controllers, that not only sound great but are visual and can be utilised in a live situation. On stage, I’m really fascinated by trying to express electronic sounds visually as well as sonically. I use both the Tenori-on and Push, synths like the Korg MS20, which looks great with all its patch cables, and Akai samplers, so you can see me pressing, hitting and triggering. I also use visuals from videos and clips. I cut them up and manipulate them using Resolume Avenue VJ software, triggered via Ableton. Of course, we also use props, outfits and dance moves!

MT: How much do you try to improvise within a live setting?

LB: I have a great white noise patch I can plug into my MS-20 at any time and make a racket. We also have quite a few bits of analogue hardware, so although programming the patches every time is quite unpredictable, I think it makes it sound more fun and real. I’d rather make mistakes and have it sound live than all perfect off a backing track, or several Yamaha Motifs like a lot of pop shows do – it ends up being more like a glorified karaoke session. I also have the TC Helicon VoiceLive Touch, which is lots of fun because I can live-effect my vocals and make loops and stutters. I have to be careful, though, because when I start messing around with gear I often nearly forget to come back in and sing at the right point!

MT: Do you have an interest in modular equipment?

LB: I do, although I don’t have my own. It seems like a bit of a black hole I may never come back from! My synth player is building one that sounds brilliant. We are using it in the live show and I’m really excited about how it’s going to affect the sound for our upcoming shows.

MT: Can you tell me about your DJ set-up and the choice of music you play out?

LB: I’ve recently joined the 21st century and started using USB keys. Up until now, I was using a pretty unpredictable collection of semi-scratched vodka-stained CDs, so hopefully it’s an improvement. I keep it pretty simple. I won’t use laptops because people can be very judgemental that you aren’t doing anything, especially if you’re a girl, so I like to mix live. I play a lot of disco edits and old-school house, mixed with new DJs and producer tracks and remixes of pop songs. I try keeping it fun and don’t take it too seriously; like a party I’m going to where I get to pick the music.

MT: How involved are you with the running of





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Left: It all started for Little Boots with a modular synth and a copy of Cubase

→ On Repeat Records, and are you looking for new artists?

LB: I'm completely involved at every level. We are a very small team, so we all have to wear several hats! We've had to learn very quickly, but it's extremely rewarding, even though the industry is so challenging at the moment. *Working Girl* is our seventh release and we're constantly looking for new artists, so we're hoping to expand on that in the future. Because we are so involved, we have to really love a project to take it on, as it's a lot of work and time – especially when trying to release and promote my own material.

MT: What challenges have you faced in an industry that's continually transforming?

LB: It's extremely difficult to make money off album sales, which is tough being a small new label, but ways are slowly opening up so that artists can make things work, mainly more live shows and brand partnerships. It's a tough industry and you have to learn fast and work hard, but eventually you realise no one really knows what they're doing as much as they make out and there's a big part of it that's down to chance; so you just have to have faith in your artists and music and hope that the rest will work itself out.

MT: Now that you've been running the label a while is it as empowering as you imagined it to be?

LB: Absolutely, although it's definitely more work than I imagined. Being across everything, from the conception of the songs through to producing videos and handling the marketing and distribution of the physical product is a real 360-degree experience. It takes some of the romance out of it, but now I wouldn't have it any other way. I love being in control of what I'm creating and trying to help other artists to do the same.

MT: There are many women emerging in electronic music who no longer shy away from 'nerding-out' in the studio. Why do you think that is?

LB: I don't think there are nearly enough women. If you look at the statistics, the ratio of female producers and DJs is horrendously low – it's been a boys' club for a very long time. I think the problem has been stereotypes, and hopefully these are gradually being worn down. I don't think women have ever really shied away from nerding out, but maybe they just haven't been covered or given the same attention or press that their male counterparts would, the focus being on female musicians who are singers and artists and performers. I think it's incredibly important that women in music technology are given more of a stage so that there are examples for girls to look up to. Over time, this is slowly changing, more and more girls are enrolling in music tech courses at A-level, and hopefully this will continue and help to make this part of the industry much more balanced.

MT: Do you feel a responsibility to project a certain type of image, for example, what do you think about female artists that perpetually use sexuality to sell a product?

LB: I think there's lots of different kinds of female artists and lots of different ways to sell products, musical or otherwise, and I don't judge anyone else's choices. I just know now how I want to be perceived and represented and how I feel comfortable promoting my music. There are certain stereotypes that are presented to us again and again, whether they are the over-sexualised female pop artist or the nerdy male genius behind the scenes doing all the

■ **"I don't think there are nearly enough women. If you look at the stats, the ratio of female producers and DJs is horrendously low"** ■

complicated button pressing and knob twiddling, but I'd like to think this is slowly changing. Feminism has become very fashionable in the last couple of years and I hope that this will just become the norm rather than a trend, and more and more examples of female producers and DJs will come through and be given space.

MT: As a female artist, do you feel that obstacles are still put in your way?

LB: This is still a male-dominated industry and it's not going to change overnight, but I think it's a very exciting time for female artists and musicians, and there are lots of examples of women creating things in interesting ways that can't be reduced or simplified, so it's very inspiring. I no longer feel pressured to look or act a certain way; I do things on my own terms and if I make good music I want that to be the case regardless of my gender. **MT**

Below: Victoria's Korg MS-20 is a vital ingredient in her home studio setup



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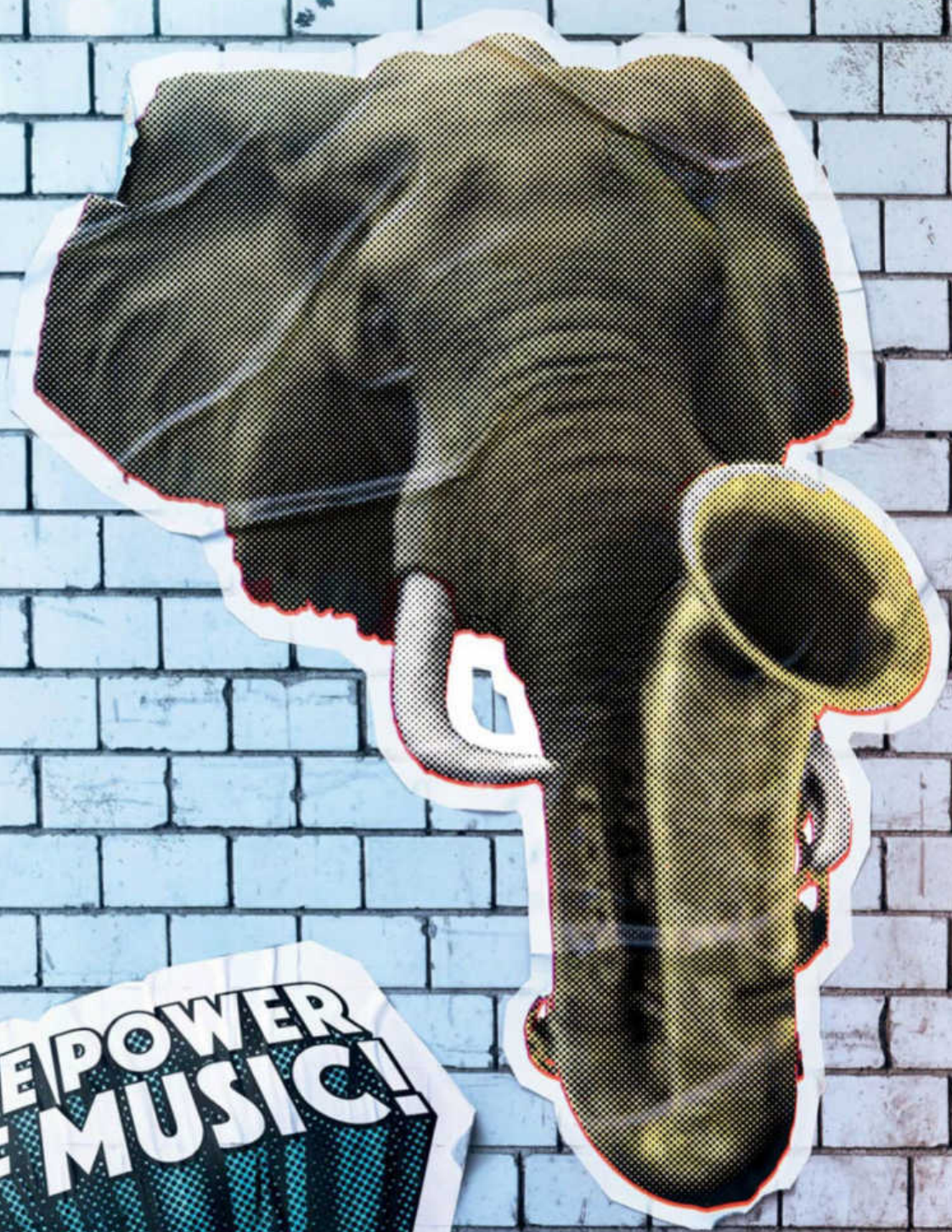


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III Ableton Live The Ultimate Guide to Ableton Live Part 10



Get some video in your Live set

If you're creative musically, you're probably creative visually. **Martin Delaney** reveals how to add movies, either to make a music video, or pimp out a live show.

You're making music on a computer, right? Well, video is just as easy to do on the same machine. If you're a video virgin, don't worry – if you can understand how to use audio clips in Live, you can handle this. It's a good skill to have – you might be asked to soundtrack a movie, you might want to make your own music video, or you might want an hour-long visual set for your own live show.

Live can open any QuickTime-compatible movies (be advised that you can't import video into Ableton Lite or Intro, though), so you have many solutions as far as content goes. There are websites that provide copyright-free movies, and while they have restrictions on commercial use, if you squirt them on a wall during a live set, that may not be such a problem. There are also browser plug-ins and applications that let you download YouTube movies. A more rewarding way to add visuals is to make your own. In my sets I've used video from cheap digital cameras, DSLRs, iPhones, HD movie cameras, and GoPros; if you mix and match you get a better texture, it's like sampling audio from different sources. For most uses, video from a phone is easily good enough. I like to use bright colours, and close-ups of small objects as they get really trippy when they're blown up big on a large screen.

When it comes to digitally-created images, and keeping it within Live (read about VJ software elsewhere on these pages), Max For Live users have options in terms of visually-oriented devices, such as Ganz Graf Mod X, Vizzable, and V-Module. This tutorial is all about using actual movies, but there's no reason why you couldn't combine techniques throughout your set. And you know what? Whatever images you use, somebody will usually tell you that they suit your music perfectly!

Live works great as a brutally simple movie editor.

You can stack multiple tracks, or place different clips on a single track – any section not covered by a movie clip will make a black screen. You can split movie clips using Cmd+E (you can't join or reverse them, though), loop them, and choose which portion of the clip to play.

Live's greatest video tool, though, is the ability to warp video, which it does by warping the audio – the attached movie simply follows along. Add warp markers and drag them around to slow down or speed up your movie clip. Even if there's no visible audio waveform, you can still insert warp markers above the 'flat line' where the audio should be.

As well as being a fantastic visual effect, I've used this a couple of times when syncing audio to video as I've sneakily expanded or contracted the video to fit the music. For those more 'pro' timing moments, Right-click in the time ruler below the Arrangement View timeline and choose to view different frame rates in FPS, instead of the default minutes and seconds.

You can also load jpegs, dragging their starts or ends to change their duration within the timeline. Try to make sure your jpegs have the same proportions as your movies, so you don't get black bars, or unwanted glimpses of movie, appearing behind your top-most image. Jpegs would also let you add text titles to your Live video projects; you never know, there's probably a Max For Live device out there that creates

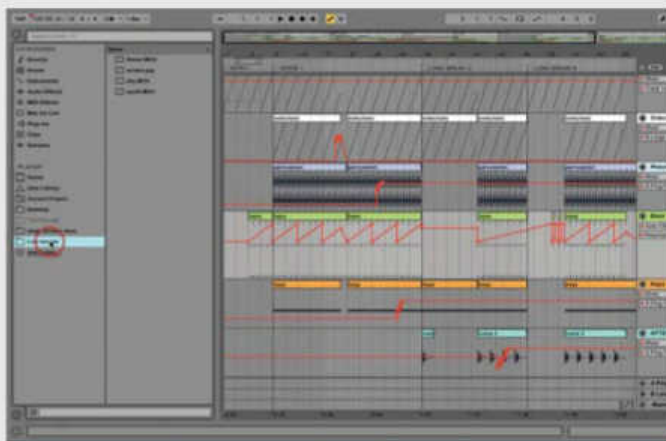
FOCUS ON... VIDEO APPS

For more sophisticated visuals, you're probably better off running a video application alongside Live. I like Arkaos Grand VJ – it's been around for years but it's still going strong. It's MIDI-controllable, so Live can control it; all you need is a separate MIDI track, sending notes to launch movie clips, and sending clip envelopes to change effect parameters, so Arkaos will always load the right image for that part of the set, even when you're improvising. For timeline use, Arkaos also has a record mode so you can capture everything and render it to pair with your mix afterwards.



MT Step-by-Step Video in live

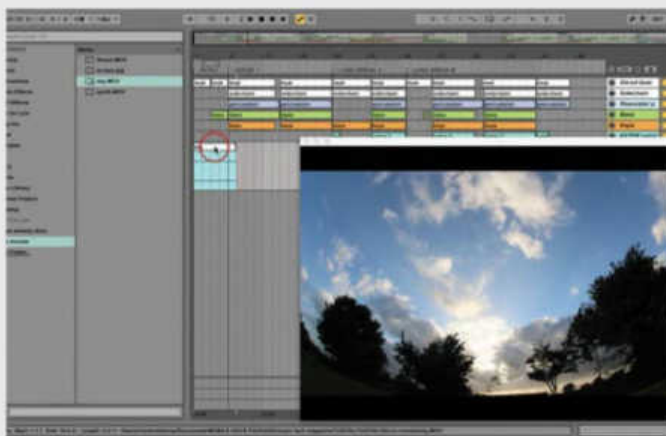
01 Start by opening your Live set from last time or, if you prefer, use the up-to-date version supplied with this issue of *MusicTech*. I'll be referring to that version throughout the tutorial.



02 We've also supplied a folder which contains the movie clips needed for the tutorial – 'Live movies'. You can navigate to that and drag it into your Live Browser, to save it as a shortcut.



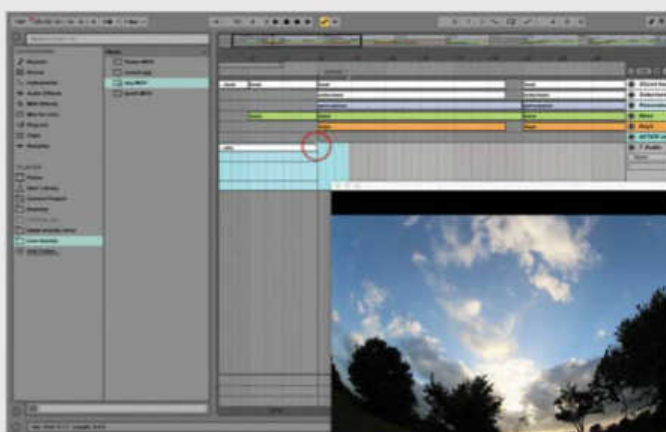
03 Drag 'sky.m4v' to the area under the current Arrangement tracks, at the start of the song. It'll behave just like when you load audio clips, creating an audio track to host the clip.



04 If you look closely, you'll see the clip has little movie frames along the edges to differentiate it. Live should have opened the Video Window automatically. If not, use **Alt+Cmd+V** to show it.



05 Double-click in the middle of the video window to enter or exit full-screen mode. Start Live running, and the video will start too, it's pretty simple. But the movie clip is very short...



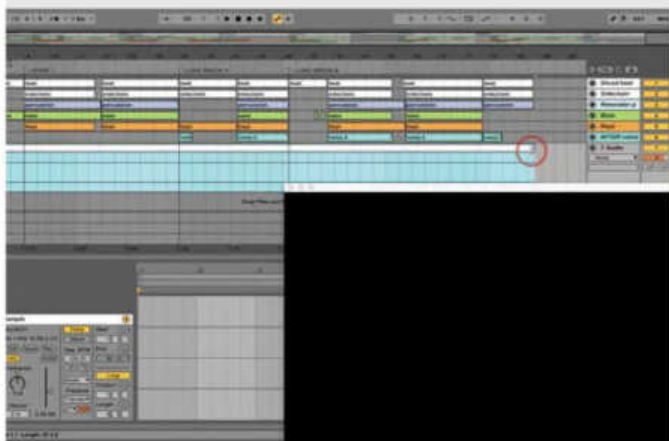
06 Remember I said it's like an audio clip? Go to the end of the movie clip, and drag the end back so the clip is exactly 8 bars long – we can 'sync' video cuts to our beats.

movie titles for Live. If there isn't, somebody probably needs to make one.

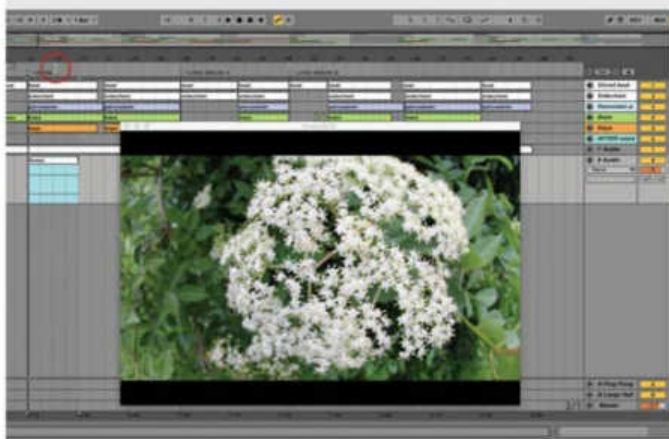
We'll discuss final processing and rendering of audio files another time. For movies, if you're working on your own material, you'll probably only use one or two settings,

but the other controls are valuable if you're working with clients who need files in specific formats. If I just want a 'take away' render to watch on my phone or computer, I use the iPhone preset. When I'm delivering video to publishers, I'm following their stated requirements for

MT Step-by-Step Video in live... cont'd



07 Now go into the Sample box and turn on Warp and Loop. Grab the end of the movie clip and drag it out so it loops to fit the entire length of the song.



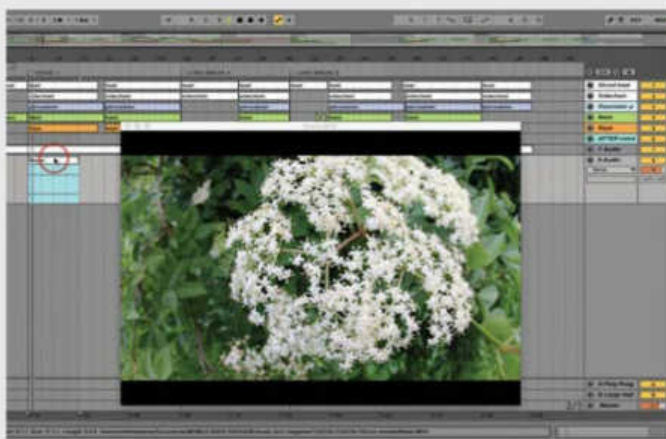
09 Drag in 'flower.m4v', once again creating a new track. Shorten it to 4 bars. Set it to warp and loop. Drag it to 8 bars length. Place it at bar 9 on the timeline.



11 Load 'synth.m4v', but put it in the previous track at bar 32 and again at bar 53. Don't warp or loop this yet. Yes you can put many movie clips in the same track.



08 This all makes more sense if you have a second display or video projector connected. Drag the video window to the display/projector window, then double click it again for full screen video.



10 Now play through that section. You'll see that the video in the lower track takes priority. That's how it always works with video tracks in Live. Hmm, this is getting to be like video editing!



12 Double click it to see the audio waveform – it's some speech. Try dropping Live's Ping Pong Delay on that track, set the dry/wet to whatever sounds good to you. We can process movie audio!

→ image size, frame rate, and so on. If you're impatient, remember that video takes longer to render than audio, and the more you're compressing it, the longer it takes.

Everything we've discussed has related to the Arrangement View; there's a simple reason for that. Drag a movie onto Session View, and you'll be advised that Live

can't handle video in Session View. But it's not all bad – it'll give you a chance to ditch the video content but retain the audio which is a fast way to extract audio samples from movies! If you really need video coming out of the Session View, it'll have to be via Max For Live devices like the ones I mentioned earlier.



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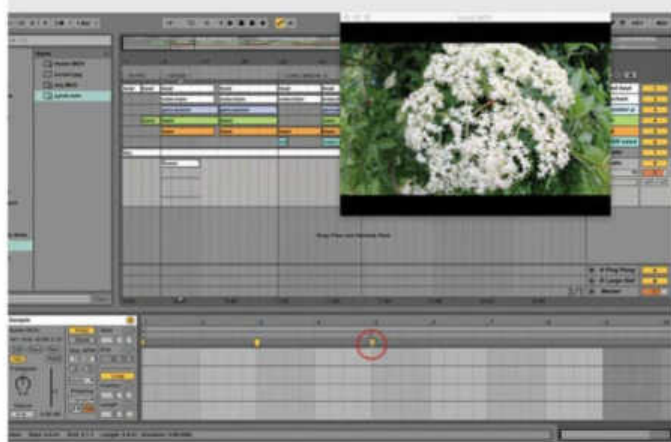
MT Step-by-Step Video in live... cont'd



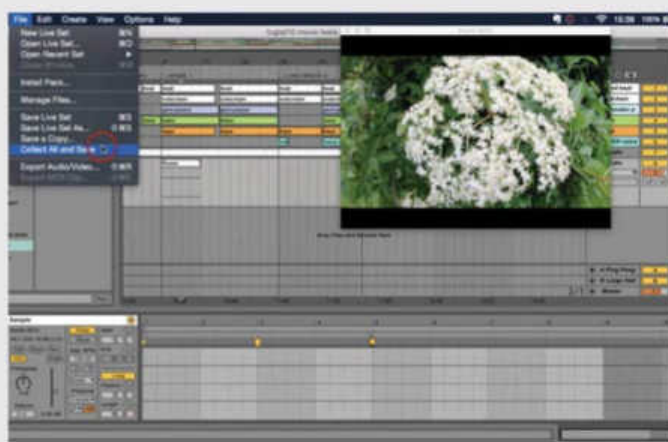
- 13** Warp and loop the second instance of the clip. Add a Warp Marker to the end of the clip. Drag that left until it reaches the end of bar 1. Shorten the loop brace to one bar.



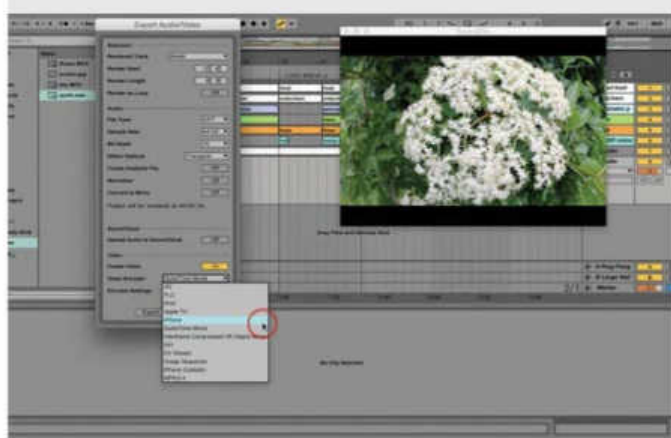
- 14** Now play that section. Not only have you made the audio play faster, you've made the video loop and play faster with it – isn't that cool? This is an awesome Live feature! So much fun...



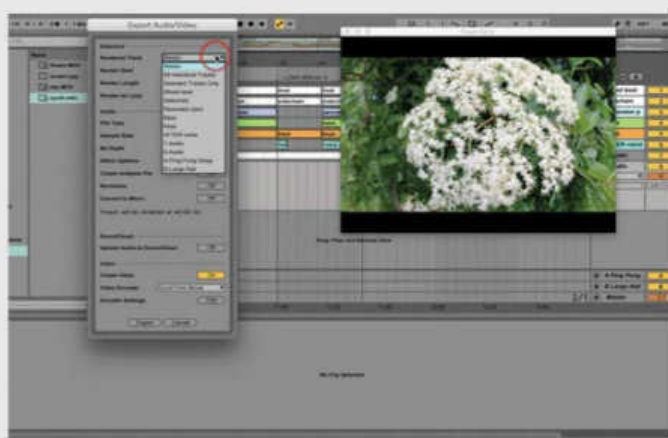
- 15** With these techniques, you can use Live as a basic movie editor, and the video warping is a nice extra trick. You can even warp 'silent' movies by placing warp markers on the clip's 'flatline' waveform.



- 16** Be aware that if you execute the Collect All And Save command, the movie clips will be collected as well as the audio, so you will get larger than usual Live projects.



- 17** To render the movie with audio, open the Export Audio/Video, and make sure video is switched on. There are many available export formats; what options you see will depend on your computer and OS.



- 18** See more in our main text about video formats. As far as more detailed audio rendering goes, we'll be talking about the more final stages of finishing and exporting your completed tunes next time.

→ Although Session View is a no-no, you can have a timeline full of movie clips in Arrangement View, and flip back to Session View to launch clips in real-time like always. Your video output isn't affected, as long as you're not launching clips in the same tracks that contain video clips. Sometimes it's safer to remove the clip stop buttons

in the video tracks as they appear in Session View, so you can't accidentally stop or launch anything in them.

This is an easy route into movie editing if you're curious about that, and most importantly, it's a lot of fun. You already have Ableton Live and a computer, and probably a phone with a camera. So what's stopping you? **MT**



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Technique Mastering Part 3

Sum + Difference in mastering

Even among mastering engineers, mid-side processing is seen as something of a 'dark art'.

Mike Hillier unravels the mysteries of M/S...

Mid-side processing is a useful problem-solving tool for mastering engineers, enabling us to split the signal in a different way to the standard left/right, in order to sort problem areas which would otherwise require going back to the mix. However, without careful attention, mid-side processing can cause as many problems as it fixes – often changes you make to the sides can sound great when you're solo'ing them, but



only one side remain. For this reason, you'll often see M/S referred to as Sum + Difference.

This process is then reversed for the decoding, with the mid and side being summed to create one of the left/right channels, and the mid and a polarity-inverted side being summed to create the other. Any changes made to the mid- or side-channel will affect the summing during the decoding process, to create an altered stereo image. For example, cutting the low-end of the side-channel will result in pushing those frequencies towards the middle of the stereo image, and not – as many assume – simply result in these frequencies being cut, while boosting a frequency band will widen the stereo image in that range. Similarly, compressing the sides will shrink the stereo image.

M/S should be thought of largely as a correctional tool and not a go-to processor

may generate considerable issues when you revert to monitoring the standard stereo mix.

The key to using 'M/S' processing is understanding the underlying maths at work. The mid-channel is created by summing the left and right signals. This means that it's essentially the mono version of the mix. The sides aren't removed from the mid, they're simply folded in. The side-channel, however, is created by summing one side of the stereo image with an inverted polarity version of the other side.

It doesn't matter which of the two sides is inverted, so long as the same process is reversed when decoding. Any signal that's equally present on both sides is cancelled out, while those which are present on

For this workshop we're using *The Great Divide* by Edgar Wallace Exchange, mixed by Ben Walker. Find out more about Edgar Wallace Exchange from their Twitter feed: @ewe_music

A correctional tool

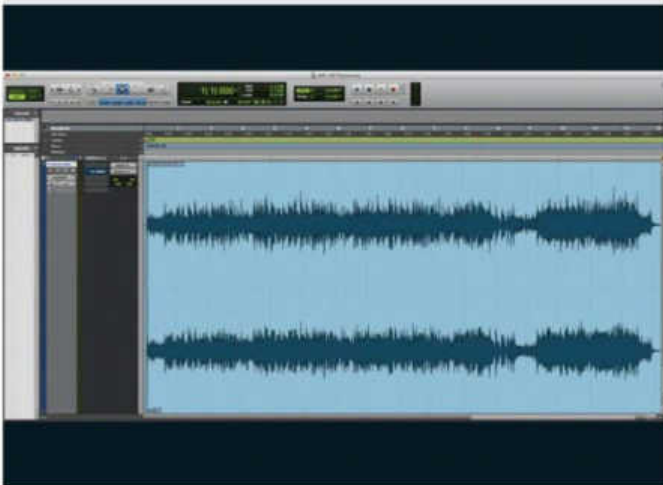
M/S processing can cause problems because any change in the correlation between the mid- and side-channels, caused by any change in phase or latency, can result in the collapse of the combined image, into phantom stereo with no real placement. EQ can, by its very nature, effect phase changes, and may also cause some serious headaches.

Therefore, M/S should be thought of largely as a correctional tool, to fix problems in the stereo image of a mix, and not as an instant, go-to processor. However, when used carefully, M/S can help to bring an extra dimension to your masters. **MT**

HIGHLIGHT

There are some great and interesting tools which make use of M/S. The UAD Precision K-Stereo tool uses mid-side processing to find and enhance the room reflections and reverb on a recording. As well as enhancing the sense of space, this can also bring a natural width to mono recordings.



MT Step-by-Step Using M/S on a track

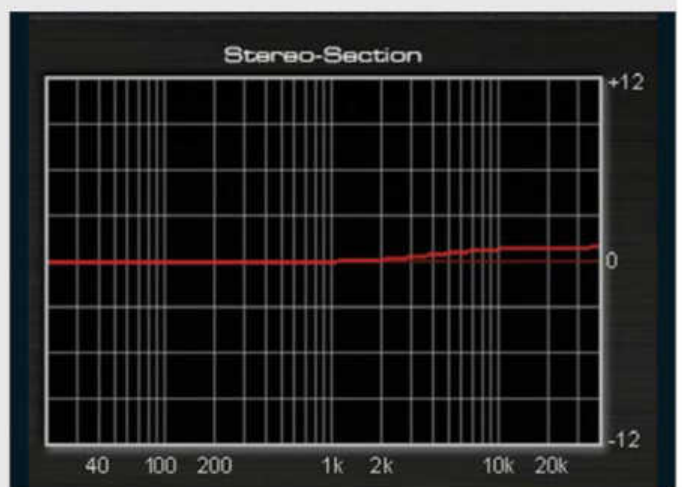
01 *The Great Divide* hinges on a fingerpicked acoustic guitar and a soft vocal, and also features drums, bass, piano, electric guitar and pedal steel. The mix has a strong central focus on the drums, bass and vocals, and the other instruments surround them without heavy panning.



02 We're going to use the Brainworx bx_digital V2 as our M/S EQ. This EQ does all the M/S matrix work for you and has five parametric EQ bands and high- and low-pass filters per channel, alongside bass- and presence-shift options, de-essers and a mono-maker function.



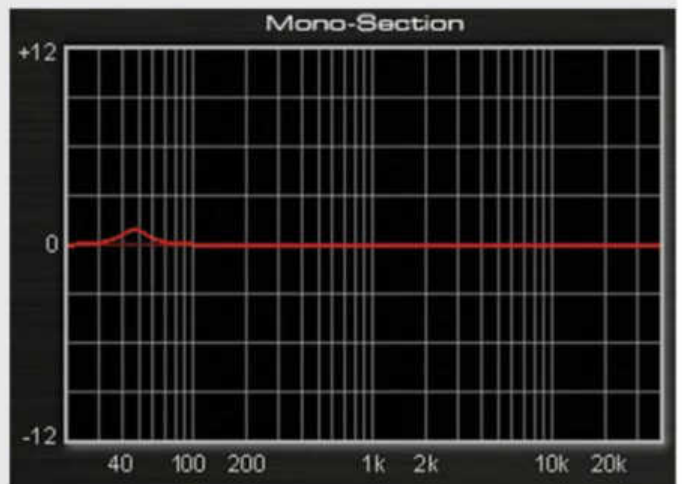
03 The mono-maker applies a filter to the side-channel which shifts all the energy below a certain frequency to the mid-channel. This was especially useful when mastering for vinyl but can still be handy for dealing with wide synth bass in some mixes.



04 Although this mix doesn't need the low-end sent to the mids at all, some additional width in the top-end might help to give space to the vocal in the centre. We're going to dial in a high-end shelf on the side channel and boost by 1dB, but starting at a fairly low frequency.

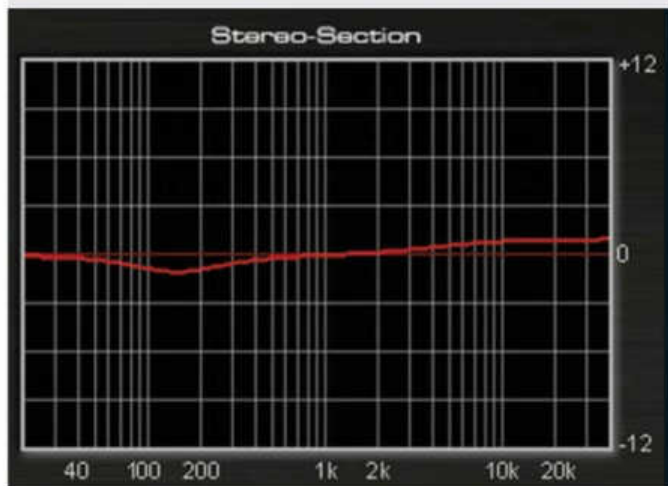


05 The Stereo width knob works as a balance between the mid- and the side-channels, and needs to be balanced against any EQ changes you make. We often find that dialling it down slightly, while boosting the high-frequencies in the side-channel, can give focus to a mix. However, in this mix we're going to dial it up slightly, in order to add more separation to the stereo field.



06 Boosting the very low-end – perhaps the fundamental of the kick in the mid-channel – can bring weight to a mix without lifting the noise floor of the side-channels. In this screen shot, the fundamental is just below 50Hz.

→ MT Step-by-Step Using M/S on a track



07 A parametric cut in the side-channel will push those frequencies to the middle of the mix. This can be especially useful for focusing centrally-placed instruments in the stereo image, especially if they have a wide reverb attached to them.



08 A de-esser can be used for more than removing sibilance. De-essing the side-channel can help to tame bright cymbals, or if used alongside a boost in the top-end, to add 'air' around a mix without too much additional energy, as the 'air' is compressed by the de-esser.



09 As we're already using the high-frequency shelf in bx_digital we'll get the second shelf higher up from the Dangerous BAX EQ for the 'air' band.



10 Mid-side EQ is only one of the tools that are available for you to use. Compression can also be utilised in M/S processing. Here we're going to use the UAD Fairchild 670 emulation, which has a native M/S mode that it calls Lat/Vert.



11 Before compressing the signal, the Fairchild has to be put into Lat/Vert mode, and then the sidechain and controls need to be unlinked, otherwise both mid and sides will be compressed similarly, and there will be no real difference between this and Left/Right.



12 As you bring the threshold up on the mid-channel (Lat), you should notice the image start to get a little wider. Therefore, logically, as you bring up the threshold on the side-channel (Vert), the image will begin to shrink.

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VA Synthesis with Alchemy

Alchemy is a tremendously versatile synth, but its VA engine is the real star of the show. **Mark Cousins** explore some classic subtractive sounds...

With Granular, Additive and Formant-based synthesis modes, Alchemy is a complex and vast synthesizer that can take years to truly master. At its heart, however, Alchemy has a surprisingly easy-to-use virtual analogue (VA) synthesis engine, capable of producing many of the distinctive synthesizer sounds we're used to hearing on a Moog, ARP or classic Roland synthesizer. While it might not be as immediate an instrument as Retro Synth, the sheer dexterity and sonic power of Alchemy's VA engine is well worth closer inspection.



– are the Unison controls that double-up the oscillators with up to 16 additional voices. Add copious amounts of detune, and from just a single oscillator you can produce a sound of eight or more analogue synthesizers stacked on top of one another.

Filter fun

For Logic Pro X users that are accustomed to working with the ES2, the serial/parallel filters should be easy to understand. Like the ES2, Alchemy has two filters that can either be used one after another (so that the output of the first filter feeds into the next), or in parallel where the two filters run concurrently. You can also route the four oscillators so that they address either Filter 1 or 2, making it possible to create some unique hybrid effects. In the walkthrough (starting opposite), we'll take a look at one example that creates a hybrid pad sound routing a single oscillator to two filters running in low-pass and band-pass modes respectively.

Modulation, of course, is the point at which any synthesizer starts to get interesting – mapping a variety of modulation sources (like envelopes and LFOs) through to any number of controls within the synthesizer. What makes Alchemy an exciting proposition is both the wealth of modulation sources available – including a Multi-stage Envelope Generator (MSEG) and Step Sequencer among all the usual Envelopes and LFOs – and the fact that they can be routed to any parameter within the synth.

Mod heaven

To keep its operation intuitive, Alchemy's modulation routing system works on a 'last control touched' principle. Adjust the filter cutoff, for example, and you'll see Filter 1 Cutoff appear as a target in the modulation section. Simply click on the drop-down menu and you can select a modulation source from the comprehensive list. What's particularly

VA Basics

Thanks to a clear and intuitive interface, the basic principles of VA synthesis on Alchemy are easy to understand. We start with four Sources (in Alchemy-speak)

The sheer dexterity and sonic power of Alchemy's VA engine is well worth closer inspection...

that form our four oscillators – A, B, C and D. In VA mode, the four sources can each be assigned a variety of starting waveshapes, including the classic Sawtooth, Pulse and Square as well as a variety of more esoteric, harmonically-complex waveshapes. The output of the oscillators is then passed on to two multimode filters, which can work in either parallel or serial configuration, before being passed to the amplifier.

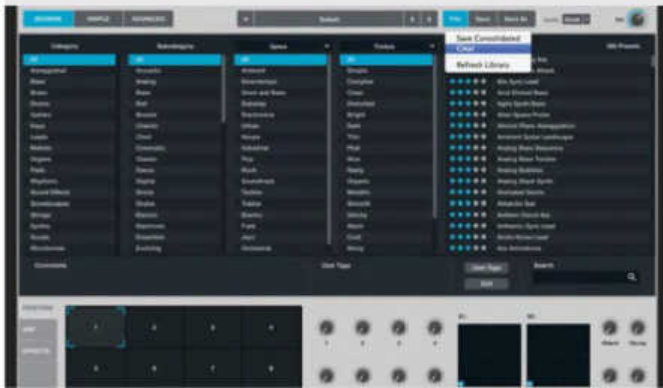
What seems an initially straightforward set of synthesis controls reveals additional depths and sonic powers as you move deeper into the architecture. Click on the source tabs on the top left-hand side of Alchemy's interface and you'll see an expanded set of controls for each Oscillator. One of these expanded controls – found at the far right-hand side

VA ELEMENT CONTROLS

The VA Element Control (found as part of the expanded Source options) has a number of detailed but important controls that relate specifically to the task of VA synthesis. When you load a Square or Pulse wave, for example, the Symmetry control acts as a Pulse Width control, which can be modulated to create the classical PWM (Pulse Width Modulation) effect. Sync creates a form of pitch-based distortion, whereby the wavecycles of two oscillators are locked together. Raising Sync increases the waveform distortion, and sounds really effective when controlled from an Envelope generator for the classic 'sync sweep' sound. As well as a Unison option, you can also activate a noise source, which is great for synth percussion effects, or adding a touch of grit into fast-moving sequencer lines.



MT Step-by-Step Alchemy VA Synthesis



01 Load an instance of Alchemy and start by initializing a blank patch using the Alchemy menu item File > Clear. You should now have a vanilla 'Sawtooth' patch. Now, move over to the Advanced tab to begin refining the sound.



02 Under the Advanced tab we can see a global overview of the current patch, moving between the four oscillators (A, B, C and D) at the top, through to the filter and amplifier. Click on the waveform name to select a new VA waveform.



03 Activate the second oscillator by clicking on the small B icon. Change the waveform assignment to Square – Arp and use the Tune control to shift the oscillator down 12 semitones from Oscillator A. This forms the sound of the sub oscillator.



04 Each oscillator has an expanded selection of controls, which you can see by clicking off the Global tab (in the top left-hand corner) and selecting A, B, C or D. Over the right-hand side we can increase the unison (Uni) voices and the amount of detune.



05 Once we've established the starting timbre it then gets passed through the filter. Using the drop-down menu you can select your filter type, which can include low-pass, band-pass and high-pass operation as well as various filter types like notch and formant.



06 We're working with the 4-pole, Low-pass LP4 MG filter. Try reducing the cutoff and increasing the resonance to hear its sound. For a real Moog-like sound, try increasing the drive to add extra body and grit to the filter's operation.

useful is the orange banding that wraps around the selected parameter, which gives you an idea of the amount of modulation being applied. Reduce the depth control, for example, and the band shrinks, having less of an impact on the destination parameter. Handily, this also provides a visual indication of how the depth interacts with the 'base-level', often reminding you to lower a parameter so it can be modulated correctly.

The programmable modulation sources (including the

LFOs, AHDSR, MSEG and Step Sequencer) can all be accessed using tabs in the modulation area. If you're using more than one LFO, AHDSR, MSEG and Step Sequencer note the 'Current' number parameter, which lets you step between the different iterations (like LFO1 and LFO2, for example). As evident on many of the presets, the Step Sequencer is a great way of adding movement and animation into your Alchemy patches, especially when you combine multiple track lanes and clever parameter routing. →

→ In keeping with the flexibility across the rest of the synth, Alchemy provides a total of five effect buses (A, B, C, D and Main) each of which can be assigned its own chain of effects. In theory, you can route individual oscillators directly to the effects section (bypassing the filters) or in the same way, route individual filter outs directly to their own effect bus. Combined with the flexibility filter routing, it means that you really exploit hybrid sounds, layering different filters and effects as part of the same patch.

Going further

If you're thinking that the omission of Alchemy's Granular, Additive, Formant and Sample-based synthesis leaves a gaping hole in your understanding of Alchemy, you need not worry. Understanding the architecture of Alchemy via the familiarity of VA synthesis is a great first step in a more comprehensive understanding of the synth. In truth, the more esoteric and unusual Source modules tap into this same architecture, so that what once seemed like an

MT Step-by-Step Alchemy VA Synthesis (cont'd)



07 Adding filter modulation is easy. First make a few movements to cutoff and notice how the Modulation routing window (just beneath the oscillators) updates to include Filter 1 Cutoff as the Target. From the drop-down menu select AHDSR Env > New AHDSR.



08 With our routing established, the modulation area should have updated to display AHDSR 2. Set sustain to zero and program a fast decay and release. Notice the orange banding to illustrate the filter movements, which can be reduced using the depth control.



09 Now let's add some vibrato via LFO1. Go to the expanded view of Oscillator A and wiggle the Fine-tuning control. As with filter, the Modulation routing window updates to show Tune Fine A as the target. Select LFO1 as the source.



10 Now adjust the LFO setting to fine tune the vibrato. Take the Sync control off and adjust the rate to your taste. You can also try experimenting with the Shape selection. There are some useful chaotic waveshapes like 'Disrupted Cycle'.



11 To demonstrate the parallel filters, let's create a basic PWM pad sound. From a reset patch setting, select the Pulse 50 - Arp waveform for Oscillator 1. Modulate the Sym control using LFO1, with rate around 12 o'clock and depth at 2 o'clock.



12 Setup a soft LP4 MG setting on the filter. Modulate filter cutoff so that it tracks the keyboard, using Note Property > Key Follow as the modulation source. As you move up the keyboard note how the filter also opens up.

oscillator has miraculously transformed a granular synth engine. Although the source module changes, the route through the synth – including the filters, FX routing and modulation routing – remains the same.

In a future workshop, therefore, we'll take a look at some of the more advanced features of Alchemy and how they can be used to produce highly contemporary sounds, rather than the old-school analogue patches we've explored this time. As you'll see, Alchemy is a deep and

complex musical instrument, but one that really rewards time spent with it, thanks to an intuitive interface and an almost limitless set of possibilities to explore. Look out for more in a future tutorial. **MT**

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MT Step-by-Step Alchemy VA Synthesis (cont'd)



- 13** Make sure the F1/F2 control is at 12 o'clock on Oscillator A. Activate the second filter and select the BP4 MG mode. Move the cutoff control and hear its sweep in addition to the low-pass filter. The two filters are working in parallel.



- 15** By default, AHDSR1 is automatically routed through to the amplifier. Select the AHDSR tab, therefore, and increase the attack and release to create a more pad-like volume envelope. You might also want to lower sustain slightly and increase the decay.



- 17** Open the Sequencer tab and adjust each of the 16 preset steps. Create a different value for each step so that you create a repeating sample-and-hold type pattern. This can have a subtle or extreme effect on the filter by varying the depth.



- 14** Now add some modulation of Filter 2 Cutoff using LFO2 (as LFO1 is currently being used to modulate waveform symmetry). Set the depth to a relatively shallow amount, and adjust the speed so that the movement is a slow undulation.



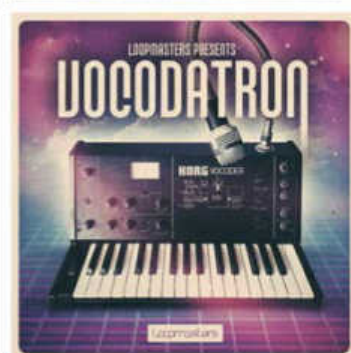
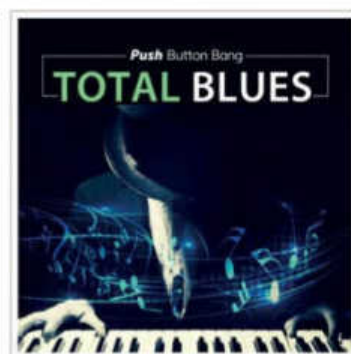
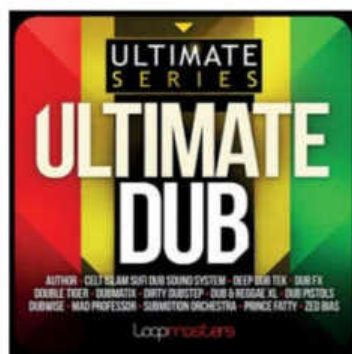
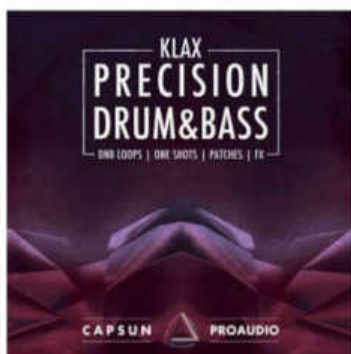
- 16** There's a wealth of modulation potential in Alchemy, including a fantastic step sequencer. Setup a new modulation routing for Filter 2 Cutoff (in addition to the existing KeyFollow routing) using Sequencer1 as the source.



- 18** Alchemy has its own four-bus effects engine, which can be individually addressed by the two filters. Change the filter output setting from FX Main to FX A and B respectively. Effects are instantiated at the bottom of the interface.

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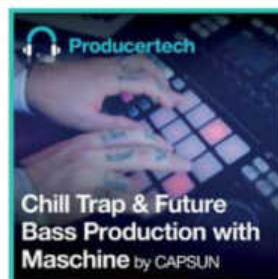
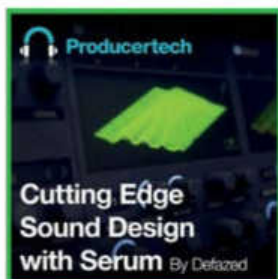
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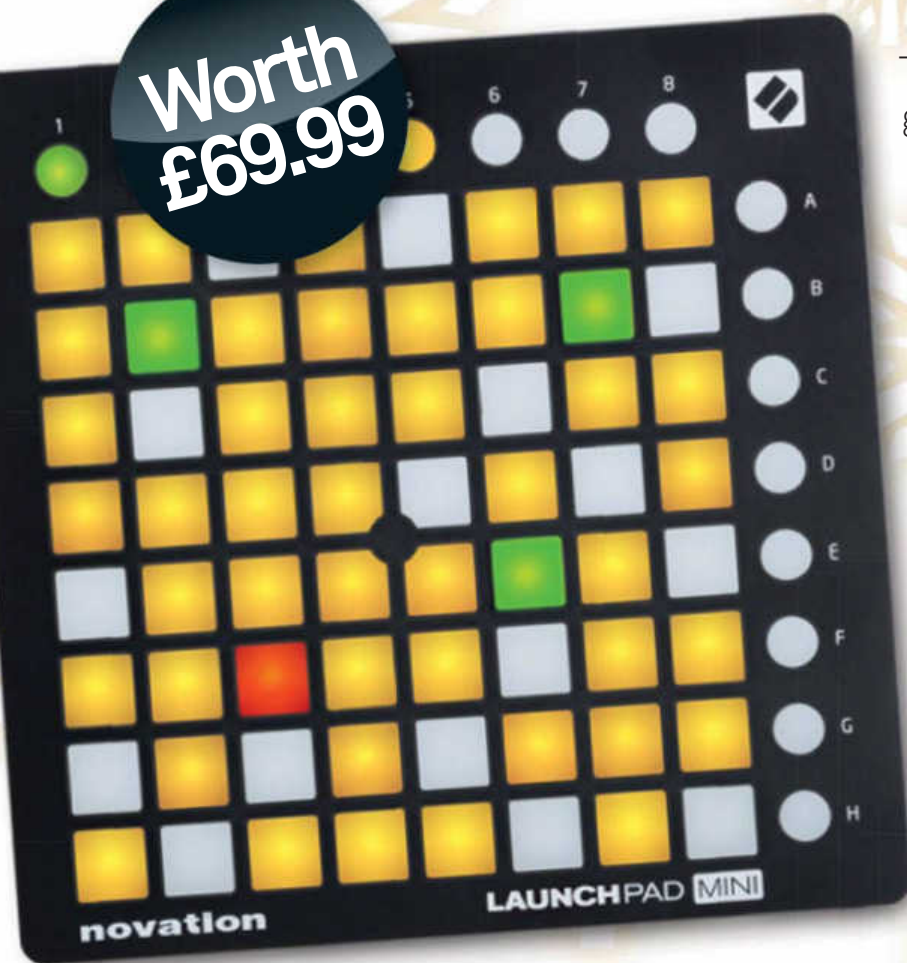
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MT Lead Review

Hardware ■ Software ■ Mobile tech ■ Accessories



It looks like a computer mock up but this is the real thing. Expect RISE to morph into some kind of Terminator any minute now...

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OS X 10.8+ / Win 7+ / iOS 7+ • Intel Core i5 2.5GHz or faster • 4 GB RAM (8 GB RAM rec) • 2 GB available disk space for Equator • USB 2.0+ port for USB compatibility

SEABOARD RISE



Key Features

- Hardware-software integrated controller
- 25 Keywaves
- Bundled with Equator, "the world's first purpose built, multi-dimensional soft synth"
- Completely wireless with MIDI over Bluetooth
- Connections: USB B port (MIDI out and power); USB A port (for charging peripherals); Continuous pedal input (1/4" jack)
- Weight: 2.8kg
- Size (mm): 505 x 210 x 22.9

A new concept of music creation, performance and control has been threatened by ROLI for a while. With the Seaboard RISE it's finally here, and it's for everyone.

Andy Jones gets his hands on one of the first production units...

So when was the last time you saw a genuinely new type of hardware aimed at the music-maker? I'm racking my ageing brain to think. Certainly in the near 25 years that I've been writing about technology I can't recall a company like ROLI going out on such a limb with something seemingly so completely new for music producers.

The Seaboard range of instruments isn't so far 'out there' that it requires a complete brain rewiring and a total rethink about how you make and perform music. However, it does effectively throw the concept of the keyboard – or controller – into the air and rearrange the pieces into a completely new form.

It's like somebody – let's assume it was ROLI's founder, Roland Lamb – thought 'okay, with a wealth of new creative music software and hardware out there, what do we *really* want from

rubber-like keyboard and – there's no getting away from it so I may as well get this bit out of the way – a futuristic look and appeal, not to mention an added dimension or

It's **sleek, dark and ominous** – rather like **Knight Rider** turning up at **a vintage car rally**

a controller in the 21st century? The opening salvo was the Seaboard Grand, an expensive first stab at the new controller concept and one which set a blueprint for the style of the series, with its distinctive black,

three (literally) of ways to control your music.

Offering more ways to manipulate your sounds across the keyboard (or 'Keywave Surface') it threatened to add completely new aspects to music

performance, in a similar way to how 3D has (seemingly for decades) threatened add a new dimension to cinema. Let's just hope, though, that ROLI does it rather more successfully.

But the Grand – as well-realised as it is – is an expensive first step for anyone to take. The cheapest models of the 61-note controllers are £2,499, while a limited edition will set you back £5,888. And although a cheaper, 37-note has come out for £1,599, it's still a lot to ask the music-producing masses to take a punt on, especially as the added extra control gives you added extra control over... well, what exactly?

RISE of the machine

Enter the RISE, a compact version of the Seaboard that's aimed at everyone, and at a far more attractive price of £599. As for the control question, the answer to what these new types of keyboards offer you over your standard 'black and white' efforts is, essentially, whatever the hell you want. The extra dimensions offered can be assigned to pretty much anything, as with any good controller, but that's down to the performer to convey.

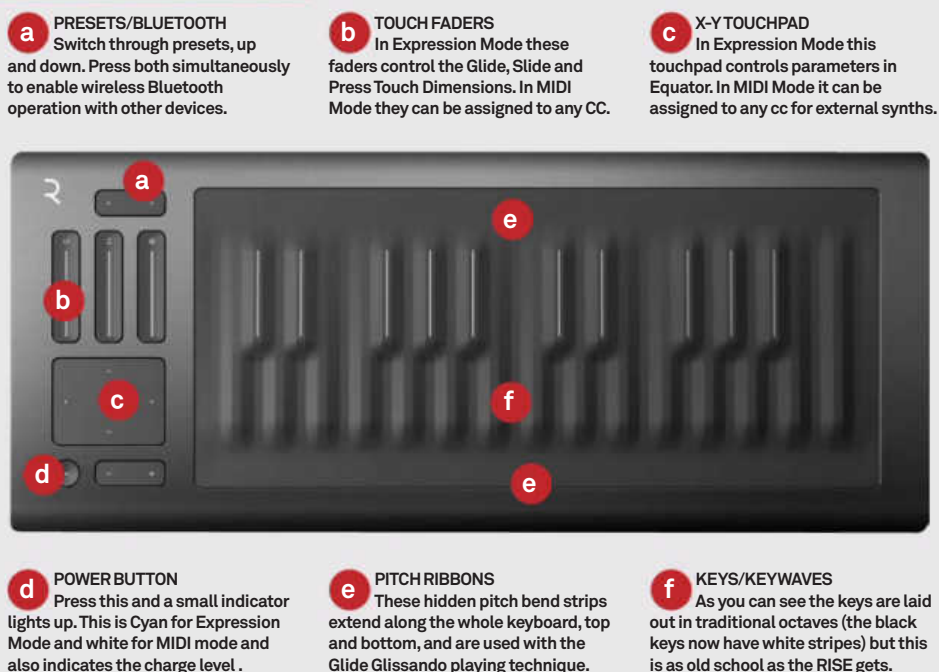
However, new technology requires a certain amount of 'spoon feeding' so the genius of RISE is that it comes with a piece of software, namely a synth called Equator. It's designed to show off what RISE – and indeed the whole Seaboard concept – can do by being a synth which responds to all of the extra dimensions that the keyboard can control. Well, that's the theory, anyway...

Not flashy

The first thing to hit you as you unpack RISE, aside from the Apple-like feel of the packaging and product, plus a rather nice letter from Roland, is the case it's housed in. This is described as a "beautiful protective case" and it does indeed look like it was sculpted from some futuristic substance, simply to house the RISE keyboard. A closer inspection reveals it to be a lightweight plastic material. I'm pretty sure it will protect, but I'm not sure for how long. And I could have done with a handle – yes, I'm being picky.

However, I have to say that what lies within the case is quite stunning. There

Seaboard RISE front panel overview



are none of the flashing lights you find on just about every other music-making device these days. This is sleek, dark and ominous. When slotted into my studio set-up, it was rather like Knight Rider turning up at a vintage car rally.

When you first get up close and personal to a Seaboard, like me, you'll touch it – quite a lot. It's smooth, compact and heavy – a little too weighty, if I'm honest – but it feels sturdy enough for stage and studio use. The four large rubberised pads beneath it, combined with the weight, should keep it in place during just about every live experience – up to, but not necessarily including, a full-blown stage invasion.

The main Keywave Surface is silicone and the keys have a squidgy feel – you'll very likely pinch them for a bit during your first ten minutes. There are a good half-dozen controllers on the left of the main keyboard and, yes, we can call it that (for the moment at least) because you can play it as such and there are 25 keys laid out over the trad 2+ octaves.

Going very briefly back to the futuristic thing – yes, this does look incredible. You may not think so but its distinctive, almost unnerving looks will

get people gathering around to have a gander, that I can guarantee. I can imagine a similar reaction to when the first Northrop Grumman B-2 Spirit (aka the Stealth Bomber) came out of the hangar at Area 51 (allegedly) – I should think that other engineers would have come over and given it a rub. That's what other musicians will do with your RISE (and we'll park that right there).

As you can see from the image below left, the connections are minimal and around the side. You don't get any audio outs as this is a hardware controller which works with the bundled (as a download) software of the Equator synth and Dashboard software. Consequently, you just get a couple of USBs (handling MIDI, power and charging), DC power plus a pedal in. It's minimal but so is the whole design ethic. Also worth noting here is that the unit will operate wirelessly via Bluetooth (press the preset button 'Up and Down' simultaneously) with an internal battery lasting a promised 12 hours, and that RISE charges via USB and has an indicator that flashes every few seconds.

ROLI words

Before I go much further, I'm going to have to introduce the concepts that cover the ROLI and RISE user philosophy, the software and the creator experience. Yes, I'm now a 'creator', according to the manual...

Firstly, the Dashboard software is a →



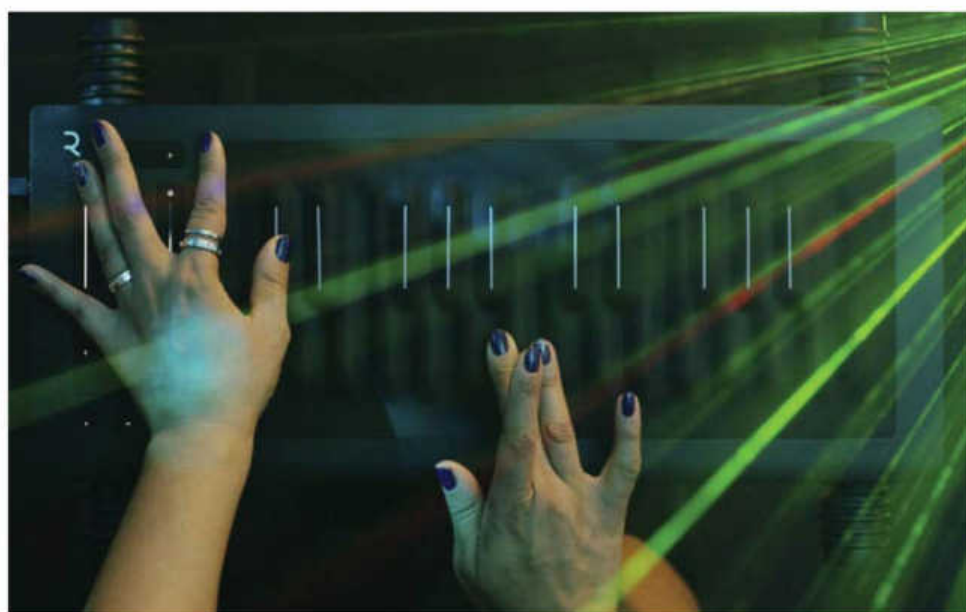
The RISE is incredibly thin, yet solid and heavy. The main connections are around the left-hand side, as shown above

→ standalone app that enables you to tinker with the hardware. Then there's the MPE (Multi-Dimensional Polyphonic Expression), the protocol that RISE uses which enables MIDI to manipulate its extra controller dimensions. ROLI describes these as 'The 5 Dimensions of Touch' and these are crucial to the Seaboard philosophy. They are Strike, the force of your finger hitting a key; Press, the continuous pressure applied after a Strike; Glide, horizontal movements on a keywave; Slide, vertical movements; and finally Lift, the speed of lift-off after a Press.

Actually, it isn't that hard to get your head around what's essentially a new way of controlling and creating music. You're looking at horizontal swiping and added control over key pressing. Once you grasp this handful of 'dimensions', you'll understand one of the two main modes a little better.

Expression Mode is a way of playing the Seaboard RISE, controlling Glide, Slide and Press using the three Touch Faders to the left of the main keyboard. Expression Curves are essentially graphical curves which represent the five dimensions of touch. Visualiser, meanwhile, is a way of using the Dashboard software to simply look at how the dimensions are acting on the Keywave Surface.

You also get the more standard



button highlighted blue and turns the Touch Faders into Glide, Slide and Press controllers. I had a bit of trouble getting Glide to do much here – I got far more with the Glissando playing style but that's more to do with its subtle effect (and also, if I'm honest, my 'playing style') than anything being wrong. The other two parameters work dramatically and you can see what you're doing in realtime within the synth, under the respective Touch parameters.

In Expression Mode and MIDI Mode,

Playing the Seaboard RISE in the dark might genuinely cause a few issues, as you can see here (or not!)

weren't really, were you? You'll have to learn some fresh techniques as there are a lot of new ones on offer.

So, getting into these, if you hold a note with the end of your finger and then move it quickly from left to right you'll introduce a vibrato and pitch bend effect – this is Glide Vibrato. Doing the same thing up and down along the note is called Slide Vibrato and will give you a similar effect. Glide Glissando, meanwhile, makes use of two not-so-obvious pitch ribbons at the top and bottom of the Keywave Surface, acting as large pitch bends over two octaves in both directions.

Continuous Press Modulation is a bit like aftertouch in that modulation will be increased or decreased according to the pressure you apply after a note is played. Similarly, Slide Modulation comes in when you quickly move your finger up and down. This isn't to be confused with simply moving your finger up and down after you play a note within certain sounds in Equator, which results in a fade between elements of that sound. I found myself doing this more than any of the other touted playing styles as it's the most dramatic effect, acting like the old Vector joystick on a Yamaha SY synth I once owned. Used on the Choir Pad sound, for example, you get the vocal part of the sound at the top of the key and the strings part at the bottom. It's probably the most obvious new type of effect that comes out of playing RISE – think of it as a mixer between sounds – and one I can see many people using a lot.

Exploring these techniques, on a

Once you grasp the five dimensions of touch you'll understand the RISE concept

MIDI Mode, which enables you to assign the three Touch Faders and the X-Y Touchpad that's also on the left of the keyboard to any MIDI CC.

In operation

Of course the best way to hear how all of this works is to use RISE so I loaded up the Equator synth – a 2GB download along with the Dashboard software – to dive right in there. We'll come on to the synth itself shortly but the crux of RISE and why you'll ultimately decide whether it's for you, is in what the package offers you in terms of control and playing styles. And this is where it gets a bit tasty...

You can choose to use the hardware control sections in one of the two Modes, as I've mentioned. Expression Mode is with the power

when the power button displays as white, the X-Y Touchpad is also assigned to various parameters, which you just change by sliding. In MIDI Mode, the Touch Faders can be assigned to any MIDI CC – typically, vibrato for the Slide control. Although these are lots of fun, even more can be had simply by playing the keys in a variety of different ways.

You can, of course, simply kit a key (or 'Keywave') and sustain the note as usual – that is, play it like 'normal'. There's a chance that you might find the Keywaves a little less responsive than you're used to if you use a light-weight traditional keyboard. I'm becoming more of an acoustic piano user and RISE takes a little getting used to compared to that – of course it does – so don't expect a traditional playing experience here. But you

performance level, you're already leaps away from a normal keyboard. Sure, some of the terminology is just another name for what you can do on other keyboards, but in practice the styles combine to make for a creative and rewarding playing experience. And of course these styles are only scratching the surface, as you don't have to change the parameters stated within each. Because it's MIDI-based and MPE standard, you can use the playing styles

because I was introducing the new, subtle (and not so) playing methods as I went along (sometimes accidentally, I have to admit) the sound was changing a lot. Eventually, the sound evolved far more dramatically than I could've ever hoped for when playing any other keyboard/synth combination 'normally'.

These new techniques obviously take some getting used to, but practising them will really help you to get more creative with the controller,

stress again that RISE is more for 'creative' than 'standard' performers. You can play 'standard' piano but concert pianists might get a little more than they bargained for, simply by pressing a key harder here or wobbling another there...

Finally, I should also add that the hardware can control any MIDI instrument – software or hardware – although ROLI recommends multi-timbral ones to get the best performance. Of course, you could use the company's own software, which is designed to show the keyboard off in its best light. Which brings me to...

Equator

And so now to the main software attraction. Equator is a 'multi-dimensional' synth, which is a fancy way of saying that it'll respond to the added controlling bells and whistles which come with RISE. It runs standalone or within your DAW – I had it working straight away in Logic 10.2 – although as the manual states, "to take full



■ You can play RISE in a standard way but pianists might get more than they bargained for ■

to change other parameters, making the whole experience massively creative and opening up a world of frankly headache-inducing possibilities.

I found myself playing up and down the Keywave surface, using several of the more glitchy sounds in Equator, and

for both recording and performance.

By no means do you have to be an expert player to get the 'extra' benefits of RISE. I was tempted to record everything that I played, simply because the new dimensions offered were so unexpected.

With this last point in mind, I'll



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You may need to go elsewhere if you want a normal playing experience but RISE will give you the creativity you need and is a fantastic value entry to the Seaboard world...



control over the two filters and effects (FX and Reverb).

Overall, Equator obviously sits excellently with RISE but also works quite well standalone. The preset selection is a bit clunky by genre but what Equator does well is show off what RISE can do hands-on, which is obviously what ROLI wanted by bundling the two together. Importantly, it also has enough sonically to make what you do with it incredibly creative. I was quickly playing and creating more interesting textures and atmospheres than I'd ever expected and the ingredients that Equator provides were blended into all sorts of new shapes via RISE.

→ advantage of the RISE's dimensions of expression is not a uniform process. It depends on the DAW". There are work-arounds to do this for some DAWs, including Cubase, Logic and Reaper.

Equator is a well-featured synth on its own terms. It appears rather 'black' on first boot up – a little bit too stealth in this instance – but comes into its own when you load up presets, which then livens things up on-screen. The synth's architecture is simply laid out, with the synth generators at the top, comprising three oscillators, a couple of sample based-synths, a noise engine and FM. There are filters aplenty and a useful effects section up-front, with bitcrusher, chorus, delay and reverb plus a very usable EQ with draggable pointers.

Beneath this is the all-important modulation section, which replicates the Touch Faders and X-Y Touchpad from the hardware, and also has blocks and waveshapes for each of the five Touch Dimensions. So moving a Touch Slider on the left – either on the hardware or in the software – will dramatically or subtly change a TD parameter on the right. Again, switching between the Expression and MIDI Modes will change what's being altered by the Touch Faders but it isn't immediately obvious which of these modes you're and that can cause a little confusion.

As well as having the extra MIDI and Expression controllers on the RISE keyboard itself, it's also possible to assign any one of these to parameters within Equator so, yes, it's easy to get

that synth filter and resonance thing going with RISE if it isn't already set up.

A set of envelopes make up the rest of the first screen in Equator and a couple of other sub-screens show the global parameters and the overall mix levels of the synth engines (two sampler, three oscillator, noise and ring modulator) and also allow easy

Equator looks a lot more lively when a preset is loaded, as shown, and the EQ on for extra glamour. The three Touch Sliders and Touch Dimensions are represented towards the middle left



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- 1 x USB 2.0 (USB 3 compatible)
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- TotalMix FX (with EQ, Reverb, Delay)

RME

→ You do get a fair base of sounds – a good spread and all decent quality, but for once it isn't really about what you start with, but where you end up. You, along with RISE, take these not-so-raw ingredients up a few levels – literally, to many new dimensions. It's a great combination of hardware and software.

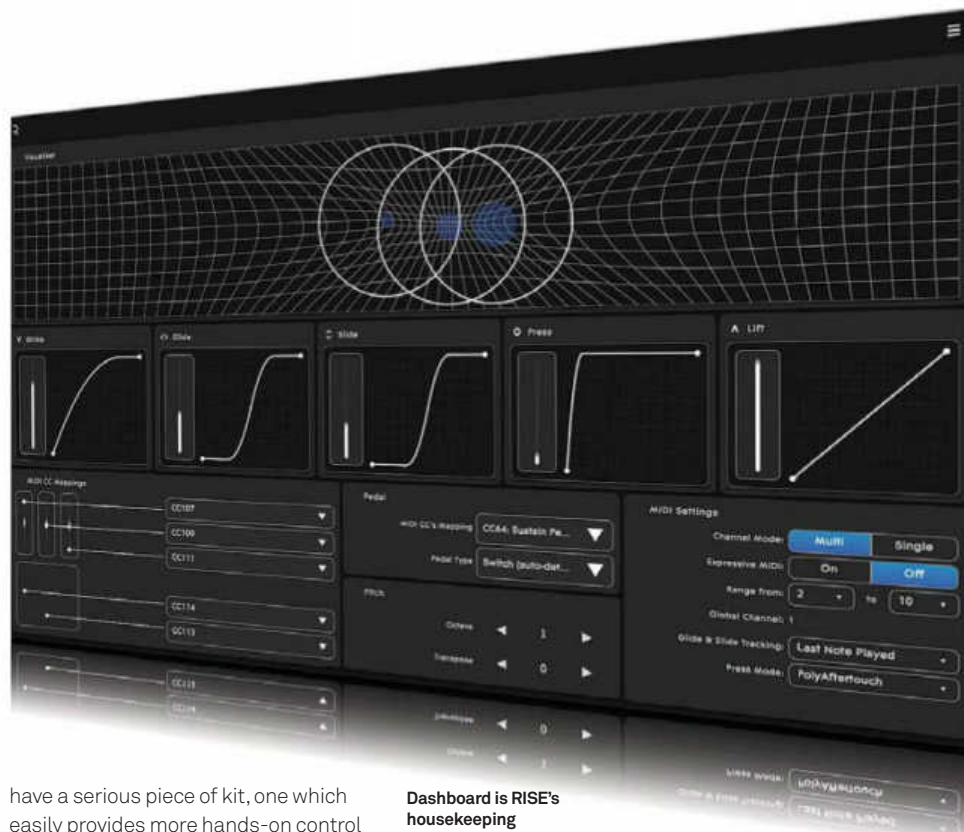
Finally, I should just touch on Dashboard, the other application which comes bundled with the software. Initially, I went straight to Equator for this tests but the Dashboard software lets you assign many of your MIDI controllers and also has a neat graphical interface called Visualiser, which offers a great representation of notes and Touch Parameters. I didn't find it that useful but it did press my 'love of fancy graphics' button.

Conclusion

The Seaboard Grand was, and still is, an intriguing product but perhaps one that's only destined to be a keyboard used by rich pop stars or endorsees like the ubiquitous Jordan Rudess.

RISE, on the other hand, is priced brilliantly and the Equator software takes it up yet another notch, turning it into a serious contender and potentially taking ROLI out of the achingly trendy Shoreditch area of London into studios and onto stage across the world. It's beautifully built, solid and even though it's an untried technology you do feel that you can trust it. Longer term testing and software updates will come but we're still at V1 on both counts so I'm hesitant to recommend RISE without reservations.

But even as a seriously cool MIDI controller and soft synth, £599 isn't too far off the money when compared to some of the alternatives (see box below). So if you were just to use RISE as a standard controller keyboard you'd be doing okay – well, you'd be missing the point, but you get my point, right? Add in the extra potential offered by the five Touch Dimensions and how they interact with Equator and you suddenly



have a serious piece of kit, one which easily provides more hands-on control over different parameters of your sound than your standard keyboard user. Remember, in MIDI Mode you'll be able to apply some of those new playing techniques to other parameters so you can explore in 3D while others stay in their flat, ordinary dimensions.

Of course, using MIDI, the potential level of creativity that RISE provides are in areas that people with standard controllers might already be able to explore. Indeed, that's my one caveat for recommending RISE completely. I think it's probably a better controller for live rather than studio use simply because performers will get more instantaneous gratification out of it, not to mention looking pretty cool while they're at it. Studio users can get the sound manipulation that RISE makes so easy with a bit (okay, a lot) of programming so I'm not sure that it'll completely change the world of music production like ROLI probably wants it to. That said, it's £599 for a new piece of smooth tech – and with Equator thrown in, that

Dashboard is RISE's housekeeping software and features Visualiser, a fancy way of looking at the notes played and the associated Touch Parameters. Any excuse to have bouncing balls against a Tron-like graphical grid...

makes it a great buy. And for sticking its neck on the line to produce a brand new piece of hardware that's totally unlike anything else out there? Well, ROLI can only be applauded. RISE is solid, sleek, great value and can sound superb. **MT**

MT Verdict

- + Lovely design
- + Well built and very sturdy
- + Feels great, like something out of the ordinary, which it is
- + Equator has some great sounds and we really like the extra dimensions that are so easily accessed via the keyboard
- + Wireless control via Bluetooth
- + Great as a creative unit – you'll produce more varied sound
- + Good value for a piece of relatively new tech
- + Can be used as an ordinary controller (if you really want to)
- + Not everyone will get it (physically or mentally)

- Dark in the dark
- Software could look a little more enticing
- You'll want to learn new playing techniques to get maximum potential out of it
- Case could be better for carrying

We didn't expect to be quite so impressed with Rise as we are. It's a genuinely new piece of hardware that will expand your performance and recording creativity. It looks stunning, and with Equator thrown in, can sound that way too...

9/10

Alternatives

There's nothing out there quite like RISE, alone or combined with Equator – you're looking at an unprecedented level of control over software here. For great integration of software and hardware, check out the Komplete Kontrol S Series from Native Instruments (and now available in 25-to-88-key models) plus the KK software (now v1.5). The Akai Advance series also does the soft-hard thing very well indeed. Neither, however, have the creative cool and hands-on control options of RISE, nor are they quite as sleek and dangerous looking...



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Mike Hillier gets to soundcheck early...

Details

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Key Features

- Record 32 channels to USB drive
- Play back 32 channels from USB drive
- 32x32 USB interface (Mac, PC, iOS)
- uRemote software control

The X32 digital mixing console has quickly become many a live engineer's favourite tool. It's intuitive, great sounding, packed with features and surprisingly inexpensive. However, when it comes to recording, the X32 is capable of recording only a single stereo output to a USB drive as standard. Behringer has released a variety of expansion card options for the X32, which enable the mixer to behave as a 32x32 audio interface over USB, FireWire or MADI. The Cymatic uTrack X32 is similar in many ways to these expansion cards. However, in addition to enabling you to use the X32 as an audio interface, the uTrack X32 gives you the opportunity to record or play back directly to a FAT32-formatted USB drive.

In addition to the Behringer X32 family of consoles, the uTrack X32 can also be fitted to the MIDAS M32 range. To enable us to carry out this review, Studiospares kindly loaned us a Behringer X32 console, into which we installed the uTrack X32 card. Installation is incredibly simple – the card slides into the expansion slot on the rear of the X32 console, with guide rails ensuring that the pins on the card line up with the port.

Recording

With the card installed, we were able to connect the console to our Mac via USB and see the X32 as a 32-channel interface. No drivers were necessary and we were up and running in Pro Tools immediately. It's important to note that the card has two USB ports: a Type B port for connection to Mac, PC or iOS device for use as an interface, and a Type A port for connecting USB drives. If a drive is connected to the Type B USB port, the hard disk mode takes precedence and the audio interface mode is deactivated.

Using the X32 as an interface lets you use the 32 mic preamps built into the console as inputs to your DAW, then for mixdown you can send 32 channels back into the console for a more hands-on approach. You can also hook up your external hardware to the eight aux sends on the console, making the X32 a useful centrepiece for your studio. Any digital conversion occurs inside the console, using the console's converters.

While using the uTrack X32 as an interface is great fun, this functionality has been available for a while using Behringer's own expansion cards. The real innovation the uTrack X32 brings is the Hard Disk mode. Dragging a laptop

Other options?

The uTrack X32 turns the X32/M32 console into a great live recording device, but if you want more flexibility the uTrack 24 can record from any console, so long as you have either a mic splitter or a desk with direct outputs for each channel. If you do have an X32 and just want to use it with a laptop, then Behringer's own expansion cards should have you covered. But the uTrack X32's ability to record direct to USB drives will make for smoother planning.

to a venue just means another item to worry about getting covered in beer. Then launching your DAW and configuring it for recording 32 channels can be a chore while you should be soundchecking. With the uTrack X32, none of this is necessary. Simply plug in a FAT32-formatted USB drive and with one button push you are recording every channel, ready to be copied into your DAW later. The uTrack X32 is even capable of formatting the USB drives for you – although, of course, you will lose any data on the drive.

Playback

Recording to the uTrack X32 is likely to be the most common use for the expansion card, but Cymatic has also made it possible to play back from USB drives using the uTrack X32. To do this, you will need to connect the device over a network (an Ethernet port is built into the uTrack X32 card, as well as the Ethernet port in the X32 console) to a PC, Mac, iOS or Android device. As well as enabling you to use the USB drive as a 32-channel playback device during performances, controlled from an iPad, the benefit is that touring engineers can use the recording of a previous show as the basis for their soundcheck.

For anyone who already has an X32 or M32 console, and doesn't have an expansion card for multitrack recording, the uTrack X32 should be a no-brainer. Touring engineers who work with these consoles regularly should also consider the uTrack, as it can be fitted quickly and will make soundchecks easier, as well as providing a recording option. **MT**

MT Verdict

- + Enables direct-to-USB-drive recording
- + Preserves audio interface functionality
- + Simple to install

- Requires X32/M32 console

Soon there will be no excuse not to have a great multitrack recording of all your live performances.

10/10



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EASTWEST ProDrummer vol.1

EastWest finally delivers its take on the virtual drummer theme with ProDrummer. **Mark Cousins** picks up the sticks.

Details

Price **€249**
Contact www.soundsonline-europe.com

From the early days of BFD back in 2005, there's been a steady explosion in libraries and software instruments focusing on virtual drumming. Indeed, the 'virtual drummer' has become so ubiquitous that even Logic Pro X ships with an integrated solution in the form of Drummer. For a long while EastWest has remained relatively quiet in the virtual drumming arena, but now with the release of ProDrummer it finally has a PLAY-based solution.

At the current time of writing, ProDrummer is available in two flavours: Volume 1, produced by Mark "Spike" Stent, and Volume 2, produced by Joe Chiccarelli. While the broad operational characteristics are the same between the two libraries, the choice of kits, mics, signal processing and drummer vary from producer to producer. In Mark "Spike" Stent's volume, which we're reviewing here, the library includes over 60GB of drum samples using kit elements from Drum Workshop, Slingerland, Gretsch, Ludwig, Yamaha, Orange County, Zildjian drums, hi-hats and cymbals, all tracked across five different rooms.

Key Features

- Produced by Mark "Spike" Stent
- 14,000 MIDI drum grooves
- 60GB of drum samples

Kit Piece

As you'd expect, ProDrummer works with the latest version of EastWest's Play system, with its own custom-designed UI to reflect some important parts of its functionality. The Browser and Mixer views will be familiar to

anyone who's used Play before, letting you browse and load the kits, as well as control the mix of the drum elements. The Mix area provides full access to the complete mic set, combined with additional processing in the form of Play's SSL signal processing (including G and E Series channel strips and the all-important bus compressor) plus ProDrummer-specific processing in the form of EastWest's Amp Simulator and a version of Ohmicide.

Grooves

One big difference to other Play libraries is the main Player view, which provides a UI more familiar to that of other virtual drumming software. Towards the bottom of the interface you'll find a Song Builder, which works with the MIDI Grooves included with the library, letting you build a complete performance from within Play.

You can audition different Grooves via the Groove Browser as well, using a drag-and-drop feature to export Grooves directly into your DAW. Though effective, the Groove selection and arrangement features aren't in the same league as some of the dedicated solutions, such as EZDrummer 2, or for that matter, Logic Pro X's Drummer.

Another interesting feature found on the Player view is the Velocity Processor, which was active on all the kits we loaded. In effect, the Velocity Processor works as a form of MIDI-based compressor, narrowing the dynamic

Alternatives

Some of the most well respected solutions for virtual drumming include FXpansion's BFD3 (£229) and Steven Slate Drums (\$249). Both solutions feature a range of mixing and processing options as well as a selection of in-built grooves. If immediacy is important, check out EZdrummer 2 (£139). It has some great groove construction tools, but its mixing is more closed-off.

range of your performance so that it triggers the more powerful samples. Working alongside the MIDI Grooves, the Velocity Processor is a great way of quickly transforming the performance characteristics, although if you're just auditioning the samples, it could lead you to incorrectly conclude that the samples lack dynamic range.

Given the 60GB expended on recorded the samples, the drum kit samples sound great – from the big and airy sound of LA Tracking Room, through to the more lo-fi roominess of the LA Kitchen. The Master version of each kit provides the drums in their raw recorded form, while other variations deliver versions using Play's inbuilt signal processing, using clear style-driven names like Rock Drums or Punk.

Skins

Taken as a whole, ProDrummer succeeds more as a source of high-quality drum sounds, rather than as an integrated solution for virtual drumming, like the aforementioned EZDrummer 2. Certainly, if you like manipulating the sounds – albeit the variety of mic channels, or the wealth of high-quality internal signal processing – then there's a lot to like about ProDrummer 2. Unlike many of EastWest's orchestral libraries, though, ProDrummer doesn't really raise the bar on what we would expect from a virtual drummer, but given the strength of the competition that's clearly a hard task nowadays. **MT**

MT Verdict

- + Well-recorded kits
- + Good room sound
- + Plenty of mixing options
- + SSL signal processing

- Basic groove playback tools
- Plenty of strong alternatives
- Basic cymbal articulations

With some great mixing options, ProDrummer is sonically impressive, although the MIDI groove control lacks flexibility compared to other solutions.

7/10

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BLUE CAT AUDIO Dynamics 4

Choice
9/10
MusicTech

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Hollin Jones takes control with Blue Cat Audio's latest

Details

Price **€149**

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Web **www.**

bluecataudio.com

System requirements

Mac OS X 10.5 or

higher. Windows XP

or higher. Intel CPU

Blue Cat Audio makes a range of plug-ins for serious audio processing and analysis, and even has a few great free ones on offer. Dynamics 4 is the latest version of the company's all-in-one dynamics processor and it's available for Mac and PC. Blue Cat's adept at developing plug-ins which are actually suites of processors contained inside a single module. From a user's point of view this is great, since not only do you generally save money on buying multiple effects, but there's also much less hassle involved in dealing with a single window which can handle a multistage process.

Multiskilled

This is a fully-featured dynamics processor which can be used as a compressor, limiter, gate, expander or waveshaper – or, indeed, all of these things at the same time. These are staples of the mixing and mastering process and effects which everyone will need at some stage. You may already have separate DAW plug-ins covering these effects but the idea of using a third-party model is that it should do things better, and Blue Cat's effects tend to be significantly more flexible than most, and that's certainly the case here.

The interface has been completely redesigned, although its basic look is still recognisably that of a Blue Cat product. Most significantly, the different sections

can now be shown/hidden using buttons along the top of the display. While fully expanded it's quite large, but you can just hide the sections you don't need. Dynamics 4 features an animated zoom function for its meters and curves, and there's also a 'frozen' view.

You can monitor and process in pretty fine detail too, with peak/RMS or opto/VCA mode selection, peak envelope shape control and depth control to limit the gain range. Visual feedback can be recorded as automation curves in your DAW, to view them over time.

Something that's relatively unusual is that the plug-in has several filters to control the frequencies affected by compression and there are also some handy stereo features, such as mid/side processing, multiple stereo linking and the option to choose which channels are affected by the processing. There are also three modes available for external sidechaining: the regular input, MIDI control or automation lanes.

This is a pretty serious dynamics plug-in and far more capable than the standard model which may have come with your DAW. Arguably, using Dynamics 4 is overkill if you just want to make your vocal sit in the mix, but if you need greater control over the fine detail of your dynamics, it's very well suited.

In addition to the compression stage, there's also a brick wall limiter and clipper before the output, which

has relatively simple controls, so combined with an EQ you could easily use Dynamics 4 in a mastering chain.

Family features

Dynamics 4 also shares some of Blue Cat's standard interface features, which help with its workflow. You get up to 4x oversampling for better sound quality, latency-free operation and no CPU usage when idle plus a skinnable interface with tweakable transparency so you can change its look and feel.

There's easily accessible MIDI learn throughout the controls so you can quickly link hardware to parameters inside the effect. Switching the plug-in on or off while audio is playing won't result in any pops or clicks, and there's undo/redo plus the ability to copy and paste the plug-in's state between instances. It even claims to support any sample rate, although presumably, in practice, this means only as high as your hardware will go. Shortcuts to the manual, a well-designed preset menu and a new, integrated presets manager make Dynamics 4 much easier to use.

You get a really good selection of presets, grouped by category, covering everything from controlling the dynamics of drums, pianos or snares to multiple mix characteristics. The ability to precisely control processing behaviour, coupled with Blue Cat's customarily detailed visual feedback, makes Dynamics 4 an excellent choice if you really want to get to grips with the way sound is processed.

The customisable interface and animation make it less sterile than before and working with multiple processes inside a single window can really help speed up workflow. If you're serious about dynamics processing, this has to be high on the list of go-to plug-ins. **MT**

MT Verdict

- + Offers very fine control over dynamics
- + Very flexible
- + Great visual feedback
- + Show and hide different sections
- + Better preset management
- + Seems CPU efficient
- + Oversample for best sound quality
- + Multiple sidechain modes

- Probably overkill for simple compression jobs

A great tool for serious users to take complete control of the dynamics of their tracks and mixes. New interface helps workflow

9/10

Key Features

- Fully-featured dynamics processor
- Parallel compression
- Stereo or M/S operation
- Configurable interface
- Sidechain inputs
- Brickwall limiter
- Advanced monitoring
- Zoom in on displays
- Skinnable

SAMPLE LOGIC Gamelan

If you're after a versatile cinematic instrument, a gamelan might not be your first thought. But it should be, as **Hollin Jones** explains...

Be honest, the prospect of a 14GB gamelan instrument doesn't exactly have you jumping with excitement, does it? Well, it may well do once you read a little more about how Sample Logic has combined sampling and synthesis with some of the most advanced Kontakt instrument design around to produce a real monster of a sound design tool. The developer already produces a number of cinematic instruments, so it should come as no surprise that its formidable expertise has produced something extremely powerful indeed.

Before we begin, a few nuts and bolts. It runs in Kontakt or Kontakt Player Free, with all its associated system requirements. That is to say, standalone and all major plug-in formats. You'll need at least 14GB of disk space although it's easy to offload the library to an external drive. The majority of that file size results from a combination of 25 different instrumental and percussive gamelan instruments that were recorded on the Skywalker Sound scoring stage. Were that the end of the story, this would probably be a niche instrument. Luckily however, it's not.

What's the big deal?

Drawing on the technology seen recently in the company's Cinematic Guitars Infinity, Gamelan has a very powerful design that works entirely in a single Kontakt window. The library itself contains just one instrument, and it's inside that instrument the magic happens. There are two basic types of instrument: single core and multicore, both with a number of categories available. Single core instruments are



simpler and enable you to blend between two sound sources, which can of course be chosen from the library. A "morphanimator" is available to draw curves to make the signal move between the two sound sources, with variable rates available. Further granular controls are available for each sound source too, such as an FX animator section with presets and randomisation, which can be switched on or off for different parts of each sound source.

Multicore mode is an expansion of single core, providing four different slots, each of which can load a single core patch, making a total of up to eight sound sources available at once. Each of the four cores retains all the functionality it has in single core mode, so there's a huge amount you can do in terms of layering and animating up to eight sounds. As if that weren't enough, a large X/Y grid in the centre of the screen lets you morph between the cores and this can be animated either using a preset or by recording your own actions. As elsewhere, a good selection of tweakable options make it possible to set this up exactly as you want. The master randomiser button can be used to inject new settings into any section with its randomise button activated.

There's more...

Along the base is the effects section with seven great-sounding effects, each with its own set of controls plus a stereo widener and master cut dials. Some of these have preset menus and there's an effect X/Y section for

changing the way in which the effects apply to the soundcores and to the master section. Click on the innocuous looking Step Animator button and you reveal a whole new section containing a fully-featured arpeggiator and sequencer. Using the Link/Alt mode, you can make the sequences apply to specific soundcores while leaving others unaffected. The result is that some will be rhythmic while others sustain, creating a far more interesting overall effect. Again as throughout the instrument, presets can be loaded and saved here so if you have spent ages setting up a really cool pattern you can easily transfer it to another patch. There's even MIDI drag and drop out of Kontakt of these patterns.

Game changer?

Gamelan can do individual gamelan sounds really well, which is kind of a given. But it's so much more than that thanks to the incredibly powerful system Sample Logic has built to let you tweak, layer and program sounds. Just to clarify, you don't need to be an expert to get great results, as the setup is commendably approachable for something so capable. If you desire, the depth is there to create unique textures and rhythms, and the randomise button is only ever a click away.

A quick scan of the online audio examples will reveal the cinematic capabilities of Gamelan. Many patches go so far beyond the instrument that lends its name to the collection that they're barely recognisable. There's depth and movement, endlessly flexible rhythms, textures and atmospheres. Loops and motion mean things never get boring. Don't be fooled by the name, there's much more to Gamelan than meets the eye. **MT**

Details

Price \$399.99
Contact via website
Web www.samplelogic.com
System requirements
Kontakt 5 or Kontakt Player 5

Key Features

- 14GB content
- 25 sampled gamelans
- Standalone or plug-in
- 421 atmospheres, 316 instruments
- 322 loops, 368 percussive sounds
- 260 multicore sounds
- Randomization and morph animation
- Step sequencer
- Onboard effects

MT Verdict

- + Hugely powerful interface
- + Very well designed
- + Almost infinitely programmable
- + Far more than just gamelan sounds
- + Use in simple or multi modes
- + Good onboard effects
- + Very cinematic results
- + Great step sequencer

- Overkill if all you want is a gamelan sound!

A versatile and powerful cinematic and sound design instrument with plenty of controls.

9/10



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CINESAMPLES Abbey Road Classic Upright Pianos



Choice
9/10
MusicTech

Fancy owning the pianos used by the Beatles on some of their most iconic recordings? Cinesamples may have the next best thing, as **Hollin Jones** discovers.

Details

Price \$199

Contact via website

Web www.cinesamples.com

System requirements

Kontakt or Kontakt

Player 5.3.1 or higher

OS X 10.7, Windows 7

2GB RAM

Cinesamples started out making sample-based virtual instruments in fairly niche categories that weren't well catered for by the rest of the market, but later branched out into more catch-all areas such as orchestras. The company still produces unique content though, and Abbey Road Classic Upright Pianos fits that description. Running in Kontakt or Kontakt Player, it uses 17GB of sample content and can be used as a standalone instrument or as a plug-in inside any major DAW.

Unique sounds

It's especially unusual in that it doesn't recreate a specific kind of instrument, but two individual pianos that live at London's legendary Abbey Road studios. These are the Challen Studio piano as played by The Beatles on several albums, and the "Mrs Mills" piano, again used extensively by The Beatles. Both pianos have also featured on countless recordings by numerous other famous acts. The samples were recorded in-house by Abbey Road engineers.

There are two pianos but three main patches: Challen, Challen Tack and Mrs Mills. The interface is pleasing to the eye and reminiscent of a vintage recording console, with all the major controls on a single screen. For any of the three models you get three mixes and these are represented by the three sliders in the centre of the display.

These can be used in variable amounts all at the same time without phasing issues, blended together or selectively switched off to leave only one or two. The first mix is "vintage" and uses the same mics and positions employed for recording the pianos in the 1960s: an AKG D19c mic, REDD.47 valve preamp, Neumann U67 and an AKG C12. The modern mix uses different mics placed in front of the sound board for a warmer sound and the room mix uses a "Decca Tree" of three Neumann TLM50 mics and two ambient mics to capture more of the sound of Abbey Road's Studio 2.

Let it be

By blending two or three of the mixes you can get a really full sound, or strip it back by just using a single mix. There's a reverb fader too, with seven impulse responses to choose from plus an EQ section to the right with low, mid and high dials for tailoring the sound. This section can be switched to show effects such as stereo width, saturation and filtering, each with their own controls. To the left are three further dials, the first of which is Sample Start and which lets you alter the amount of attack in the notes by setting how quickly or how late into the sample the sound begins. Set low, you get very attack-heavy notes, and set higher, a softer effect.

At the top right of the interface, a large mono / stereo switch lets you flip between the two and while mono "real"

pianos sound quite different to stereo ones, you might want to use mono pianos to fit in with the style of the music you are making. These are, after all, vintage instruments. In the centre, a velocity curve readout can be manually adjusted by dragging with the mouse to change velocity responsiveness, and there are presets available. A Dynamic Range control is a nice addition that lets you set either a more uniform volume for all velocity layers, or create a setup where softer velocities are quiet and higher velocities much louder. An amplitude knob lets you bring the whole curve up or down while keeping the curve's shape intact. It's even possible to change the listener perspective, although this does involve digging into Kontakt's back end setup screen a little.

A piece of history

These two pianos – three if you count the harder-edged and more jangly Challen Tack version of the Challen – sound flawless. It's difficult to compare them to other pianos because, as noted earlier, you're playing a model of piano, a specific piano in a specific room and which has been modified over the years. As such these are some pretty special instruments with a sound that's been lovingly crafted and is not available anywhere else. Given the virtual impossibility of ever getting near one of these two pianos yourself, this instrument provides a remarkable way to get the sounds of The Beatles' piano – the actual one they played – in your productions. There's tweakability of course, although you probably won't want to mess too much with the originals since they sound sublime. A listen to the audio demos on the website is recommended to hear just what special instruments these are. **MT**

MT Verdict

- + Recreates two totally unique pianos
- + Great, simple interface
- + Multiple mixes of mics
- + Onboard effects
- + Mono or stereo versions
- + Highly authentic sound
- + As close as you're ever likely to get to playing these pianos

- Switching listener perspective could be slightly easier

A stunning recreation of two highly unique pianos, captured in breathtaking detail. A snapshot of musical history.

9/10

Key Features

- Sampled pianos as found at Abbey Road Studio 2
- 17GB content
- Three piano patches
- Three mixes per patch
- Runs in Kontakt or Kontakt Player
- Reverb and other effects
- Variable velocity curve
- Configurable sample start

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Choice
9/10
MusicTech

STEINBERG Nuendo 7

Audio post production is a highly specialised world.
Hollin Jones finds out if Nuendo 7 has what it takes
to make a splash...

Details

Manufacturer
Steinberg
Price **£1,324**, upgrade
pricing available
Distributor **Steinberg**
Contact **Via website**
Web
www.steinberg.net
System requirements
Mac OS X 10.9
Windows 7
4GB RAM
15GB HD space

Key Features

- Audio recording and post-production environment
- Advanced mixer with up to 13.1 support
- VCA faders
- ReConform
- Game Audio Connect
- ADR and Foley tools
- Automated batch export
- Over 70 VST3 plug-ins

Nuendo is less widely known than Cubase in music circles, but more likely to be found in audio post-production studios. That's because, although the two products share a lot of common DNA, they have a different focus. Where Cubase is music-centric, Nuendo is geared towards sound-to-picture, be it for TV, film or increasingly games. Since both programs share a lot of source code, changes introduced in Cubase often pop up in new versions of Nuendo. That's true here, though Nuendo 7 has a few new tricks of its own, too.

Outlining what Nuendo is about involves mentioning some of the requirements of audio post. These centre around extensive support for video and synchronisation formats, as well as dialogue recording and standard-compliant loudness metering. Compare pictures of Cubase 8 and Nuendo 7 and you'll see they are both advanced audio recording and editing environments. Nuendo has its own tools and omits some of the more music-oriented stuff, such as scoring, chord tracks and some instruments, though these can be added via upgrade.

Playing games

Nuendo 7 is cross-platform, and introduces some new features that will be of interest to post producers. First is Game Audio Connect, an interface

technology that lets you import audio into the Wwise game middleware system. It also integrates with the Perforce system, so changes to a Nuendo project are reported automatically. Also new is ReConforming for film and TV post, a tool that detects changes to edits based on comparing before and after Edit Decision Lists. The idea is that since you usually start audio editing based on an early cut, you've always had to spend time re-editing to cope with subsequent picture edits. This tool aims to make that process easier by automatically updating your timeline.

A feature inherited from Cubase is render-in-place, for quickly bouncing one or more audio or MIDI parts inside a project without having to export first. There are multiple render options, and it's a great time-saver. If you want to export, the Render Export box lets you perform the same tasks and options, but renders out of Nuendo rather than inside the project. More project-level workflow improvements come in the form of a new Import Audio Tracks From Project function, which can pull tracks with audio, plug-ins, routing and automation from any project to another without opening the source project.

Open windows

There's a new window organiser, with windows able to be placed on any

display and cycled or arranged. This works a little more flexibly on Windows than on a Mac. The new Rack Zone, taken from Cubase 8, lets you display the VST instrument rack and MediaBay window along the right side of a project, meaning one less floating window. There are now VCA faders in the mixer that allow you to mix more flexibly by linking different channels for easier control, and also merging automation channels. There's a clearer, more comprehensive channel strip EQ, too.

Among the new effects plug-ins are a multiband expander, multiband envelope shaper, VST Bass Amp and Quadrafuzz V2. Updated models include the de-esser, multiband compressor and tuner. On the instrument side, you get HALion Sonic SE2 and Padshop, which used to be part of the expansion pack. ASIO Guard 2 has been improved for better latency performance, and there's MIDI tempo detection, as well as a more flexible plug-in manager. VST Connect SE3 is thrown in, too – Steinberg's system for recording audio and MIDI over the internet, with video communication.

Post analysis

Upgrades from Nuendo 6 and 6.5 are affordable, with prices going up as your existing version gets older. There's plenty to warrant the upgrade: even if you don't use the new game features, it will help your workflow – especially the ReConform tools, rendering in place and VCA faders. For working in audio post, it has an excellent toolset – Steinberg's legendary interface. Yes, it's a specialised product, but it's very good at what it does. **MT**

MT Verdict

- + Comprehensive solution for all aspects of audio post
- + Feels fast
- + Well laid-out and great workflow improvements
- + VCA faders bring more mixing flexibility
- + Better window handling
- + Inherits some of Cubase 8's best new features
- + ReConform is very useful

- The more music-centric of Cubase's features are extras

An extremely powerful tool for anyone working in audio post production for TV, film or games. An investment, but one that will pay for itself through better workflow and results.

9/10



BLACK LION AUDIO B12A MKII Microphone Preamplifier

Looking for a vintage-style preamp that gives you authentic analogue sound without the frills? The B12A could be just the ticket, as **John Pickford** discovers.



Details

Price **£372**

Contact **Unity Audio**
01799 520786

Web **www.blacklionaudio.com**

The pro-audio market isn't short of vintage-style mic-pres, indeed it's rare these days to find one that doesn't claim to sound like a classic unit from analogue's glorious past. While some produce near-identical copies of vintage designs, incorporating funky, chunky knobs and meters, others simply concentrate on delivering the authentic sound without the retro-chic.

Chicago-based company Black Lion Audio sits firmly in the latter camp, with an impressive range of no-nonsense, functional analogue hardware as well as digital products ranging from DACs to digital cables. It also offers a modification service for many pro-audio products. The company's mission statement reveals them to be true audio enthusiasts, offering excellent audio bang for buck, with their number one core value being 'Sound is King' – we can't argue with that.

The B12A mkII, which offers an upgraded input transformer, more gain and a lower noise-floor than its predecessor, is based upon the legendary API 312 mic-pre originally found in the sought-after API consoles of the early 1970s. This design was, and remains, the main competitor for the Neve 1073, which Black Lion also revisits with its B173 mic-pre.

Weighing in at just under 1.5kg, the B12A is built within a 1U, half-rack chassis, providing a single channel of

microphone preamplification, with a maximum gain of 70dB. The unit feels solid and looks quite smart in its plain brushed-metal casing. Front panel controls consist of a continuously variable input-gain pot, a toggle-switch for power (with power-on in the up position) and push-button switches for 48-volt phantom power, polarity invert (phase), a 10dB pad and a final switch to engage the adjacent HI-Z jack input. There are two LEDs which illuminate to indicate power on and that phantom power is engaged respectively. The back panel has a balanced XLR microphone input, a balanced, line-level TRS output, an internal chassis ground (earth) terminal and a socket for the unit's accompanying wall-wart power supply.

Potential users may be put off by the absence of an XLR output and the inclusion of a wall-wart power supply, but this is further indication that Black Lion has chosen to spend money on the parts that really matter. Removing the top-plate of the unit reveals the high-quality internal components, including the superb (and expensive) Cinemag CM-1153 input transformer. CineMag produces world-class transformers used in high-end gear that often costs a lot more than the B12A; its performance is at the heart of this unit's sonic signature.

We know and love the classic API sound well here at *MusicTech* and it was immediately obvious that the B12A

ticks all the right boxes sonically. Our first experience of the unit was to record an overdriven electric guitar. We set up two Shure SM57s, one fed into an input of our 1980s DDA console, the other into the B12A. The B12A sounded much fuller, especially in the lower midrange, compared to our desk's mic pres. As the difference in tone was so marked, we swapped the DDA input for our valve Rooster 2 mic pre from Thermionic Culture. Again, the B12A sounded a lot fatter than the tube-driven unit albeit without the Rooster's creamy midrange. Later in the session, we used the unit with a Neumann U67 to record a male rock vocal. The low-mid emphasis enhanced the singer's voice by bringing out a warm, chesty quality that suited the track perfectly. Using the HI-Z DI input for bass guitar revealed the unit's robust bottom-end, which sounded solid and fulsome.

During the review period we were impressed time and again with the B12A's faithful recreation of the classic API sound. Its character is big, warm and quite muscular with plenty of punch. The bottom-end is solid and weighty while the upper frequencies are clear and reasonably extended. With bags of character, the B12A doesn't offer an open window to your microphone collection and won't win prizes for neutrality or transparency, But it does produce a hefty, fat tone that is well suited to the recording of all forms of rock, pop and electronica. **MT**

MT Verdict

- + Authentic API 312 character
- + Fat, punchy midrange
- + Excellent DI input
- + High-quality internal components


- No XLR output
- Wall-wart power supply
- No metering

Black Lion's B12A is a characterful microphone preamplifier with an authentic vintage tone at a competitive price. The midrange is gutsy with plenty of punch and drive, ideal for big electric guitar sounds and warm vocal tones. The absence of meters and an XLR output is easily offset by the top-drawer internal components, especially the superb Cinemag input transformer. The B12A isn't the most transparent mic pre available, however it does provide a big warm analogue sound with a rock 'n' roll heart.

8/10

Key Features

- CineMag CM-1153 input transformers
- Eddor output transformer
- 70dB maximum gain
- HI-Z DI input 10dB pad
- Phantom power
- Phase reverse switch



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AKG C314



The C314 slots into AKG's product line between the legendary C414 and the C214, but which one does it most closely resemble? **Huw Price** finds out...

First, there was the C414, which is one of the all-time classic studio microphones. Then came the entry-level fixed cardioid electret C214. Now, AKG has released the C314 – and you can probably guess what this microphone is all about just from the model designation. But just in case, this is a four-pattern condenser with bass roll-off and -20dB pad switching that's designed to hit the semi-pro spot.

At first glance, the C314 looks much like the C214, but there are some big differences. Most significantly, the true condenser one-inch capsule has front and rear diaphragms that are computer matched to achieve a high degree of accuracy and consistency across all the polar patterns.

On the edge

Like the classic AKG CK12 capsule of old, this is an edge-terminated design with what appears to be a brass outer ring. The capsule also benefits from an integrated suspension, which is claimed to obviate the need for a

Details

Price £598
Contact Sound Technology
01462 480000
Web www.akg-acoustics.com

Key Features

- Four selectable polar patterns
- Audio frequency bandwidth 20 to 20,000Hz
- Sensitivity 20mV/Pa
- Equivalent noise level 8dB-A
- Signal to noise 86dB-A
- Pre-attenuation pad -20dB
- Overload detection LED
- Bass cut filter 100Hz, 12dB/octave Hz
- Electrical impedance 200ohms
- Recommended load impedance 1,000ohms

suspension mount. The C314 kit includes AKG's H85 universal shock mount regardless, with a quick and convenient twist lock fixing. There's also a regular SA60 stand adaptor.

The thing that really sets the C314 apart has to be flexibility. Although it falls short of the C414, there are four pickup patterns to choose from. A slider switch on the back selects between omnidirectional, cardioid, hypercardioid and figure-8.

Bass roll-off is given as 12dB per octave at 100Hz, and the switch is located on the side of the body. On the other side, there's a -20dB pad switch that comes with its own visual aid – a green LED that turns red to indicate overload. You can think of this as an indication of when to activate the pad, but also when not to. After all, you can take full advantage of the C314's sensitivity and low noise floor only when the pad is inactive.

Hanging out

One drawback of the one-size-fits-all suspension mount is the way it makes the switches hard to access. The trick is to reach in under the centre ring of the mount with your index finger. Alternatively, you can attach the mount upside down, which leaves the entire body and grille clear and accessible, and the overload light clearly visible. The C314 kit comes in a smart metal

flight case with a form-fitted foam interior and a slip-over windshield. According to AKG, this mic is "perfect for every application". It's a bold claim, but in this reviewer's opinion it's less outlandish and more credible than describing a full-frequency recording transducer as a 'vocal' or 'drum' microphone. It's also more in line with the design principles behind the C414.

On acoustic instruments, the C314 is a fairly bright-sounding microphone – the upper harmonics are ample and tinselly with fast and lively transients. The bass and lower mids are smooth and fairly neutral, but the C314 isn't one of those mics that you can simply put up and expect to get a great sound.

Placed randomly, we found that the upper mids and trebles could be pinched and strident rather than airy and detailed. It's also not an ideal microphone for flattering or beefing up thin-sounding sources.

Shaping up

Cardioid produces the highest level, but there's not much between the four settings. Compared to cardioid, omni sounds a tad thinner and has a slightly odd resonance around 1.5kHz to 2kHz. Hypercardioid sounds more natural and lifelike, and figure-8 combines nice low-end weight with sweeter-sounding upper mids.

We had mixed results on instruments, but more luck with vocals. Here, the C314's low-noise/high-detail attributes came to the fore, along with a nicely workable proximity effect and forgiving off-axis response. It's a smooth yet up-front tone that helps to push vocals to the front of a mix. **MT**

MT Verdict

- + Pad & HPF switching
- + Adjustable pickup patterns
- + Convenient overload light
- + Low noise

- Suspension can obscure switches
- Odd colouration with some settings
- -20dB pad seems excessive
- Doesn't flatter midrange

The C314 is undoubtedly a well made microphone, but you should audition one before buying to determine whether the sound character will work for you.

8/10

Alternatives

There's no shortage of quality opposition at this price point. Check out the three-pattern Audio-Technica AT4050 SM (£514) and AT4047 MP (£562), both of which have switchable 80Hz filters. The Lewitt LCT 640 (£599) has five patterns and a switchable feature set that rivals the AKG C414. You could also consider nine-pattern valve mics such as the Studio Projects T3 MKII (£412) and the Avantone CV12 (£419).

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IK MULTIMEDIA Cinematic Percussion

Don't have space for a one-of-a-kind global percussion collection in your studio setup? **Hollin Jones** finds out if IK Multimedia has the solution...

Details

Price **€99.99**

Contact **Via website**

Web **www.ikmultimedia.com**

System requirements

Sampletank 3, SE3 or Custom Shop.

Key Features

- Over 2000 samples
- 400 patterns
- 166 audio loops
- Variable tempo
- Built-in effects
- Synced audio loops
- Unique instrument samples

Percussion is a staple of big budget movie soundtracks and is a far more stylistically flexible tool than you might imagine. Properly arranged, it can successfully underscore everything from exciting chase scenes to moments of tension. Regular software instruments will usually have some percussion available, but tend to only stretch to bongos and maybe a few tablas. To get more creative for scoring purposes you will almost certainly need to go for something that is a little more specialised.

IK makes add-on sample packs for its Sampletank virtual instrument and the latest of these is Cinematic Percussion. It has been recorded by Greg Ellis, a Hollywood percussionist, using his own impressive collection of weird and wonderful percussion instruments from around the world. Not only do you get loops that are played by the man himself, but he's even playing the same instruments that he used on numerous movie scores. And the list is truly impressive, including *Godzilla*, *Iron Man*, *Watchmen*, *The Matrix* and numerous others.

The collection can be installed in the full or SE versions of Sampletank 3 or

Custom Shop and is a fairly modest download of around 1GB. Once authorised it simply appears as a separate collection in the browser on the left of the instrument and patches can be loaded just by clicking on them.

Up and running

As with any Sampletank instruments you get 16 instrument slots so it's possible to layer up multiple sounds from this and other collections and then mix them and tweak effects using the onboard mixer section. First up is a collection of loops recorded at ten different BPMs, although Sampletank will also follow your DAW's tempo and in standalone mode can have a new tempo specified as well, so actually you can easily set any of the loops to play faster or slower than the speed at which they were recorded.

Each loop patch contains a number of loops – anywhere from around eight to around 20 – mapped across MIDI keys and displayed on Sampletank's keyboard. The app seems to ensure that whenever you trigger a loop it will wait until the next beat before actually starting, so that everything stays in time. You can deactivate the Sync button if you prefer to have full control over start times, with the attendant risk of your messing up the timing.

The loops work well and cover a pretty broad range of percussive instruments, from ominous gongs through to excitable congas and skittering shakers. The patterns are handy too since they are more intricate than most people would be able to replicate by playing MIDI keys. By layering loops up, triggering and deactivating them on the fly it's quite simple to build some evocative patterns quickly. Record these as MIDI in your DAW and you can of course edit them easily after a performance.

Separate sounds

The larger part of the collection is given over to individual instruments of which there are over 300, though collected into rather fewer browser categories to keep things simple. Some patches contain multiple types of instrument, and others are one kind but played at

different pitches or several different sizes of drum depending on the specific instrument. Not every key is mapped, which makes sense since a drum doesn't have as many pitches as a keyboard has notes. It would be useful however to indicate, as with the loops, which notes have a sound assigned and which don't. Here, you're left hitting notes until you find something, and it seems like this would be easy enough to show graphically.

The selection of sounds is perfect for cinematic scoring, ranging from big hits and metal percussion through to various oriental drums, gongs and djembes. There is by default a certain amount of reverb applied to many of the sounds, although you can reduce or disable this in the preferences and just re-save a new version of the patch. You can also add other effects from Sampletank's arsenal including delay and compression and, as noted, there's a good onboard mixer and when running as plug-in, the option to stream up to 16 stereo outputs into the mixer for more creative routing.

Movie star?

IK says that the instruments are suitable not just for scoring but for any music where a sense of excitement is called for. That's certainly true of the instrument patches, even if you'd sometimes want to dial down the cinematic reverb a little. The loops are very soundtrack-oriented, which is of course the main focus of this collection. As with other Sampletank instruments it's all easy to use and integrates well with your DAW and MIDI hardware. This collection certainly goes beyond whatever percussion collection you may have as part of a more generic drum instrument, and will serve any soundtrack composer well. **MT**

MT Verdict

- + Beautifully sampled sounds
- + Truly unique collection of instruments
- + Excellent patterns
- + More diverse than many other percussion collections
- + Easy to set up and play
- + Tempo stretchable loops
- + Very cinematic

- Note assignment displays for instruments would be nice

A very solid percussion instrument collection as heard on some mega hit movies.

8/10



RØDE NTR



Some might say RØDE has arrived late to the ribbon microphone party, but that doesn't matter if the development effort has been worthwhile. **Huw Price** powers up the active NTR.

The online pictures led us to believe that the RØDE NTR would be a more compact and lightweight affair in the modern ribbon style. In reality, it's both bigger and heavier than a Coles 4038, and if Darth Vader ever needed a vocal mic, the NTR would surely win out on looks alone. It's an impressive design and the whole kit just oozes charisma.

The ribbon is a mere 1.8 microns thick, and RØDE uses a special laser technique to cut them. This allows greater accuracy and prevents the edges from fraying, which RØDE claims leads to longer life.

The motor assembly is clearly visible through a chemically etched grille, and it's suspended within the housing. RØDE claims the suspension is so effective that a regular suspension stand mount is unnecessary. Like some BLUE and JZ microphones, the NTR is supplied with a screw-in retainer that holds the internals rigid while the NTR is being transported.

Details

Price £589

Contact Source

Distribution

020 8962 5080

Web www.hhb.co.uk

Key Features

- Ribbon transducer
- Active electronics
- Step-up transformer and signal balanced preamp
- Polar pattern: figure-8
- Frequency range: 20Hz - 20kHz
- Output impedance: 200Ω
- Maximum SPL: 130dB SPL (@ 1kHz, 1% THD into 1KΩ load)
- Sensitivity: -30.5dB
- Equivalent noise level (A-weighted): -15dB-A

Stepping up

The ribbon feeds straight into a low-impedance step up transformer, which in turn feeds an active preamp and electronically balanced output. This ensures the NTR is unfussy about preamps and output levels are significantly higher than typical passive ribbon designs.

The NTR is manufactured in Australia and comes with a 10-year extended warranty once an online registration is completed. During this period, RØDE undertakes to provide one free ribbon replacement.

The stand attachment clip is certainly robust and easy to lock and unlock, but having internal shock mounting is no excuse for what is essentially a cheap and generic clip of the type associated with budget Chinese mics. It's an ill-considered arrangement because the mechanism is so close to the NTR that the body itself restricts the range of movement. It's a shame, but this is our only cause for complaint with an otherwise well-made and well-presented product.

The NTR's quoted frequency response shouldn't be taken at face value. Although the upper-frequency limit may be given as 20KHz, the frequency response gradually rolls off at 4KHz before 'rallying' around 15KHz. So the tone is more 'old school' in the RCA or Coles tradition than 'modern' in the brighter Royer style.

Put head to head with a Coles 4038, we were struck more by the similarities than the differences. The 4038 has a very slightly thicker and more full-bodied character, but the NTR is clearer and cleaner in the treble, and since the proximity effect is less evident, the NTR may allow you to get that bit closer to

Alternatively

The Peluso TR 14 (£939) is an active ribbon design with a valve preamp. Designed in conjunction with Rupert Neve, the sE Electronics RNR1 (£1,055) has a 2.5 micron ribbon. The Sontronics Delta (£449) has rolled-off bass and treble for electric guitar recording. Royer's R-122 (£1,293) is an active ribbon with extended treble response.

the source. However, there are some ribbons that would be better suited to very close mic'ing.

Higher level

Irrespective of some sonic similarities, there is a considerable disparity in output due to the NTR's active electronics. The NTR's noise floor is so low that recording acoustic instruments and quiet singers presents no difficulties. Vocal tests revealed extremely smooth and natural results, with soft 'S' and 'T' sounds. There is some proximity effect, but at a hand span or so away it's more or less equivalent to most traditional large capsule condensers. However, it does ramp up rapidly as you move closer.

RØDE's claims about the internal suspension proved accurate, and the NTR is not sensitive to transmitted noise. We found the null areas to the sides of the assembly extremely effective, and we could detect no sonic difference between the front and back of the mic.

We have become accustomed to the prices of modern high-end ribbon microphones from sE, Royer, AEA and others, that greatly exceed those of some of the venerable classics that remain in production. When active electronics are involved, the retail prices can be even higher, so with that in mind we were astonished by the NTR's RRP. In fact, if it had been significantly higher, we wouldn't have been unduly concerned. **MT**

MT Verdict

- + Larger than life sound
- + Very smooth
- + Precise figure-8 response
- + Ultra-low noise
- + High output levels
- + Great build and looks

- Mic clip complicates placement
- Cardboard case

Very high quality old-school ribbon microphone sound with condenser output levels and outstanding build quality at an extremely attractive price.

9/10

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TOONTRACK EZKeys Pipe Organ

'Majestic' and 'timeless' are the words Toontrack use to describe its new EZkeys Pipe Organ.

Keith Gemmell checks it out...

Details

Price **£95**
Publisher **Toontrack**
Contact **Time+Space**
01837 55200
Web
www.toontrack.com
System requirements
Windows 7
Mac OSX 10.6.8
2 GB RAM

EZkeys has been steadily adding new keyboard instruments to its successful songwriting range for some time and the collection now includes eight instruments – six pianos, both acoustic and electric plus a recreation of the classic 60s mellotron. The eighth, this new release, features the pipe organ from a medieval church in Sweden. Pipe organs are not usually associated with songwriting, unless perhaps you write hymns, but Toontrack tells us that it was designed to fit the songwriting-friendly format they are known for and includes the most characteristic pipe organ stops and instruments. There's also a generous set of non-traditional presets for creating new soundscapes.

All clear

Many pipe organs sound muddy and are tricky to record, especially those installed in large church buildings with poor acoustics. Aware of the difficulties and because he wanted to create an instrument that could be used for both traditional and modern music, the man behind the sampling of the EZkeys Pipe Organ, Björn Gäfvert, himself an organist, chose to play and record the organ installed in the Täby Kyrka, a historic church dating back to the 13th

century. He tells us in the website promotional video that the sound is very smooth and clear, making it possible to play a large variety of music from baroque through to modern.

He recorded nearly every pipe on the organ but not every stop. Instead he chose the most useable, common combinations required for a realistic organ sound. These are 8'4'2', 8'4', Mezzoforte 8', Cornett, Sesquialtera, Flute 4'; 8', and 16'; Reed Oboe 8' and Strings. For a wide range of timbres, organ stops have different pitch levels, unison being 8' (eight foot), 4' an octave higher and so on.

Upon opening the instrument we are met with the familiar EZkeys interface displaying an on-screen keyboard, a chord display plus tuning and dynamics controls, the latter discretely hidden beneath virtual lids at opposite ends of the keyboard. Setting up sounds quickly is a simple matter of choosing one of the dozen mix ready presets.

Piping up

Plenum 16' is top of the list with a rich powerful sound, every note sounding pure and clear, no matter how full the chord. By contrast Mezzoforte 8' has a much mellower flutey quality. The actual 4' and 8' basic flutes themselves

Alternatives

Garritan Classic Pipe Organs (£66) contains no less than six different pipe organs spanning four hundred years – baroque, classical, renaissance and romantic. Two modern pipe organs are also represented in the collection which features 75 stops and combinations. Several convolution spaces are available with the included ARIA player.

posses a pipe-like tone, as you might expect but the 16' 8' flute is much fuller with a powerful full organ sound. Reed Oboe and Strings are both good and the Tutti provides a full in-your-face organ sound, great with the Cathedral reverb, one of nine preset signal chain effects available. Each one can be tweaked if need be with its own set of individual controls although you are limited to a maximum of four at a time.

With a clean sound and a single ambience control Raw Tweaks is perhaps the most useful effects preset for writing songs. Others contain several effects. Ambien, for example, features EQ, filter, fuzz, tape delay, plate reverb, pitch shifter, phaser, distortion, inverse reverb and spring reverb but you're limited to just three controls: ambience, low pass filter and modulation. That said, the system is simple and effective and works well enough.

All the usual EZKey's goodies are in evidence too, of course, including the built-in sequencer, a full MIDI library and songwriting and music education tools. There does not appear to be any specially-written MIDI files available for the EZ Pipe Organ yet but their library covers many popular styles.

This is definitely one of the best pipe organs that we have come across, especially at this price point. It's extremely gratifying to play, mainly because of the extremely clear sound, which lends itself to almost any style of music, something that cannot be achieved on many church organs. Full marks to the developers for sampling a beautiful pipe organ from a modest-sized country church – it really does make all the difference. **MT**

MT Verdict

- + Clear sound
- + Great to play
- + Song writing tools
- + Built-in Sequencer

- Limited effects editing

A majestic-sounding pipe organ with a beautifully clear sound making it suitable for many types of music.

9/10

Key Features

- Sampled pipe organ
- 12 stops
- Wide range of mix-ready presets
- Uncompromising dynamic response

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KINSMAN KM Series

Details

Price

KM8FX: £159.99

KM12FX: £269.99

Contact JHS

+44 (0) 1132 865 381

Web

www.jhs.co.uk

More studio hardware means more compact mixers, and luckily the market has become so competitive that prices are low and feature sets are high. **Andy Jones** looks at the Kinsman range from JHS, which features enough inputs for small to medium studio set-ups, plus onboard effects, at very attractive prices...

Key features

- Compact mixers for bands, home studio and DJs
- 4 mono input channels, with XLR, 1/4" Line
- Low cut button, fx send, pan control, level, peak indication LED
- Built-in multi-fx includes wah, tremolo, flange, chorus, reverb, echo, delay
- 3-band EQ
- 2x LED level meter
- 2 stereo input channels
- Aux (12FX) and EFX sends/returns
- Main and sub outs

If you had had the dubious pleasure of meeting my 2003 self, as well as wondering what it was that was growing on his chin, you'd never have heard him predict that in the space year of 2015 he'd be looking at so many mixers. Back then, he'd have been marvelling at how everything could be done on a laptop (although, if memory serves, it was a Sony Vaio the size of a small Tesco, that just about ran four plug-ins) and that studio hardware was dead and buried.

How hasty and quick to write off an era of studio history that young pup was, because the computer route, nice as it was, didn't take into account the tactility of hardware and the need to not stare at a glowing screen while creating. The last five years has seen a boom for studio hardware, and it's all colourful, crazy, beautiful and glorious to use. That means the return of the mixer. And what a return...

More types, more mixes

Of late, I have looked at all sorts of compact mixers for many hardware mixing roles: from the very modern studio mixer, in the form of the rather superb Soundcraft Ui16 (a soft/hard combo mixer – see next issue), to the Yamaha AG series, ideal for singer/songwriters and podcasters alike.

It's not, then, just a return to hardware that has seen a revival for mixing, but also the need to mix for

different tasks: audio mixing Youtube videographers, the aforementioned podcasters and a million folk guitar wannabes all need good solid mixers for their endeavours. And the new Kinsman KM series could be just that: good, solid and very old-school with a couple of extra new flourishes.

Inputs inputs

We have two on test: the KM8FX and 12FX, and initially you might think it's

ease for small and intimate gigs. Controls feel good, not cheap, and there's no looseness on the faders on the 12, nor rotaries on the 8, helping with more precise level-making.

Both mixers are also solid desktop units – they're not going to move around too much within your studio setup next to your computer. And while they can certainly help bring your analogue gear within reach of your computer environment, do consider that they

▨ I found the EQ to be **very useful**, more so than **the effects which are subtle** ▨

just a case of extra inputs for the 12. Indeed, I'm concentrating on the larger one, although there are some fairly significant differences. You get an extra pair of stereo inputs on the 12FX, an extra Aux send to bring in external effects, sub outputs, faders rather than rotaries for level, solo buttons and peak LEDs. Otherwise, the mixers share four mono ins (with XLRs), a stereo set of ins and plenty of effects action.

In use

Both mixers boast a sturdy feel and are heavy enough to feel robust for live use. Certainly, the 8 will slip into a bag with

don't have USB capabilities so don't act directly as interfaces to your virtual environment – these are standalone mixers, not interfaces.

Noise levels are pretty good – sure, you get hiss when you push it, but in general use the mixers are quiet. I found the EQ bands to be very useful and dramatic when required – more so than the onboard effects. The lower registers punch at higher levels, and you get an extra boost or cut with the lo cut control on channels 1 to 4. The mids are very in-your-face, while the highs are just the right side of delicate. The effects are a little more subtle than I was

expecting. Very often, effects on cheaper hardware are brash, but these are a little too understated and the single parameter knob that controls a main level within each doesn't help by being an endless rotary, because you

Conclusion

The Kinsman 8FX is significantly smaller and lighter – about 2/3 of the footprint of the larger model – so if you need 'compact', do consider it. £110 extra for the added bells and whistles

we certainly do prefer proper fader action over rotary dialling any day.

Overall, then, using both mixers offers a very clean and sturdy mixing experience, and certainly one that doesn't feel as if it costs as little as it does. Both come highly recommended to those on a low budget with small-to-medium mixing needs. **MT**

The £110 extra for the larger model is not insignificant, but well worth splashing out on...

never really know where you are. The only other slight niggle was that the faders on the test unit were slightly physically out when unpacked, and needed to be clicked into place – not a big deal by any means, and they performed perfectly well in the test.

the 12FX gives you is not an insignificant cost at this level of budget, but we think it is worth splashing out on if size and weight is not such a factor. You never know when those extra inputs will come in handy, and

MT Verdict

- + Low noise at decent levels
- + Good-sounding EQ
- + Compact (8FX) and sturdy
- + Rotaries and faders feel good, not cheap
- + Lots of routing flexibility (especially the 12FX)

- Effects are a little too subtle and you may need to work with them
- One or two rotaries are endless and the FX main dial feels loose

Surprisingly well-featured mixers for the cash, and low in noise at normal use levels. The onboard effects might take time to get used to, but these are sturdy boxes for live and studio use.

8/10

Alternatives

I looked at the Mackie Mix series a few months back. They offer incredibly cheap analogue mixing, also in compact and sturdy boxes, with similar routing and features. If you want added USB for a similar price, I also looked at the Alto Live 802 a while ago which, while less compact and a little noisy, does also feature USB and longer faders for just £169.



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NATIVE INSTRUMENT Brass Collection

Getting a brass ensemble into your studio is a bit of a hassle, so what to do when scoring? **Hollin Jones** checks out NI's Brass Collection.

Details

Price Brass Ensemble £339
Brass Solo £249
Bundle price £429
Distributor Native Instruments
Contact Via website
Web www.native-instruments.com
System requirements
Kontakt 5 or Kontakt Player 5
Mac OS X 10.8, 10.9 or 10.10 (latest update), Intel Core 2 Duo
Windows 7 or Windows 8 (latest Service Pack, 32/64-bit), Intel Core 2 Duo or AMD Athlon™ 64 X2
4 GB RAM (6 GB recommended for large KONTAKT Instruments)

Key Features

- 70GB sample content in total
- Trumpets, horns, trombone and tuba sections
- Multiple articulations
- 'Effects' patches
- Assignable articulation slots
- Dynamics, legato and repetition controls
- Onboard effects section

Native Instruments' Kontakt architecture powers some of the world's best virtual instruments and the German company produces a fair amount of content under its own banner too, often in collaboration with smaller sound design teams. In the case of the Brass Collection, it's Soundiron that has contributed expertise to the instruments. Like most of its type, the collection runs in Kontakt and also in the free Kontakt Player application if you don't happen to own the full version.

It's a hefty download, the two instruments weighing in at almost 50GB to download and decompressing to almost 70GB once installed, so offloading to a dedicated sample drive is a good idea. There are actually two instruments you can buy individually or together for a discount. The first and larger instrument is Brass Ensemble.

This has four full brass sections: trumpets, horns, trombones and tubas, and over 100 articulations. When you're using 'real' instruments that have been sampled and reproduced digitally, it's not sound quality that's the hardest to get right but the playability. Playing a MIDI keyboard and playing a tuba are utterly different styles, so the challenge is in translating brass instruments (or guitars, strings and so on) into a format that sounds believable on a computer.

Being articulate

As ever, NI achieves this by using articulations, the system whereby some MIDI keys trigger notes and others are used as modifiers to alter the articulation, the way in which that sound is played. So with one modifier key held, the notes may bend as they come in. With another, they may play legato and sustain for a long time. The third makes them staccato and so on. This is much better than trying to use imperfect solutions such as the pitch bend control to achieve realistic playing.

Each set of instruments has various sub-categories for playing styles and 'effects', which often trigger short sequences rather than individual notes. These can include runs, trills and other percussive melodies that would be hard to play on a keyboard. Both collections were recorded at Saint Paul's Church in San Francisco with a 32-piece brass ensemble. The sound quality is flawless but there are controls in the beautifully-designed interface to help you make them your own.

Take control

In the centre of the interface is a large Dynamics knob that varies the intensity of the volume and insistence of the sound, and under it are four sliders that are essentially ADSR controls. Moving down, by clicking on the Articulation assign window you can edit the articulation slots to modify which keys control which types of articulation. There's a legato response control with solo or duet modes and a repeat button that can be tweaked to deliver controlled repeats when a note is held.

Click through to the Mixer section and you can activate up to four sets of microphones: stereo, close, mid and far, and choose a level for each one. So it's possible to precisely control the amount of room ambience present in the sound. With all the mics active the horns sound huge, although you can of course use as much or as little as you like. Moving down there are four effects each with controls: EQ, reverb, compression and filtering, so you can process the signal internally with ease.

Going solo

The Brass Solo instrument has the same design, except it contains solo instruments. You get 30 individual NKIs, 120 articulations and the same four mic options as in Ensemble. Since the instruments here are solo they are by definition a little more subdued and better suited to more nuanced parts, although there's still plenty of character. And it's possible to build up solo parts into ensemble parts using multiple instances and clever MIDI programming if you desire. The solo instruments tend to respond a little more sympathetically to MIDI keyboard input too, since in real life, trumpets, trombones and the like only play one note at a time.

These two instruments would make a formidable addition to the tool kit of any composer, with Ensemble in particular capable of huge, stirring and epic orchestral soundscapes. The solo instruments sound amazing too, more atmospheric and introspective. They're also good for regular music production, for adding an orchestral layer to rock or pop, although it's probably for scoring that they are most perfectly suited, as a quick blast of the online audio demos should reveal. **MT**

MT Verdict

- + Gorgeous brass instrument sounds
- + Simple but powerful interface
- + Great control over different mics
- + Powerful cinematic brass in Ensemble
- + Subtle instruments in Solo
- + Perfect for scoring
- + Integrates with Complete Kontrol hardware

- Better for orchestral stuff, though the title does make this clear

A fantastically-rich sounding orchestral brass collection with great articulations and a wide stylistic range.

9/10



PRISM Titan



Prism's range of high quality interfaces is now within reach of many studio users. **Andy Jones** aims for the high end with Titan...

We recently looked at Prism's more entry-level and recently price-slashed Lyra USB interface. This month we look at the Titan, very much towards the top of Prism's high quality audio interface range. While it's newer than Lyra, it too has seen a significant price drop, so a unit that was retailing for £3,600 at one time now shifts for a grand less.

That's still big money, you may think, but as I explained last issue, Prism is all about the quality converters, all about the components, all about the bits and Lyra very much stands out as a simple interface but one with an exceptional sound quality which, like a good pair of monitors, is worth splashing out the cash for the results. Dare I say that even if the results only represent a 5% gain in quality, that is still worth aiming at because your signal chain is always key to a good recording.

And there's more

While Lyra is quite a simple interface, Titan is more buxom, boasting lots of ins and outs and a spec more at home with the Orpheus, a Prism interface that is fast becoming a legend in its (underworld) lifetime.

Looks-wise Titan is, as you might expect, similar in elegance and make up to Lyra, albeit in a fetching pure white rather than gold. You get that handy multicoloured LED screen but as there's more coming into and out of this box, there are more meters within a larger display and more physical inputs on the front (two line) and far more around the

Details

Kit Titan
Manufacturer **Prism**
Price **£2,600**
Distributor
Prism Sound
Contact **sales@prismsound.com**,
+44 1353 648 888
Web
www.prismsound.com

Key Features

- 8-in, 8-out USB2 interface plus 2 S/PDIF & MDIO
- Up to 24-bit recording at up to 192KHz
- 8 x ins, four XLR with preamps and 8 outs
- LED display; multi-coloured with 10 meters
- Dimensions (wxdxhmm) 440 x 290 x 50
- Weight: 3.7kg

Alternatives

If £2,600 seems a tad out of reach, and of course it may seem a lot for an interface, and you don't have a lot to route, you'll get a similar sound from Lyra (£1,200 2-in, 2-out plus digital) and slightly more routing from Lyra 2 (£1,600 4-in, 4-out plus digital). There are a gazillion cheaper interfacing options but arguably none carry as much clout in the quality stakes. Of the many out there, I've had a lot of good experience with the Focusrite Saffire range plus multiple i/os from Presonus.



back. Here there's a further six inputs, four of which double as line/XLRs, which have mic pres, and two of which are unbalanced instruments ins. You get eight outputs plus two sets of headphone outs each with a level rotary. There are also S/PDIF digital and optical TOSLINK in/outputs. The unit also includes Prism's Multi-Channel Digital IO expansion slot for other host interface formats. 'MDIO modules of various formats,' the manual promises, 'will become available in the future.'

Other points of interfacing interest are the Overkiller feature, which is again present to limit levels on input. There's also a high pass filter, a useful addition for the mic inputs especially. Finally, each pair of input channels has a switchable MS Matrix, intended for use with mid-side microphones for sum and difference signal processing to create left and right outputs.

Bigger spec, same software

After familiarising myself with Lyra's mix and control software when testing that unit, it's pleasing but not surprising that the same software works with Titan. Indeed it boots up automatically as I power up Titan, and looks slightly

different colour wise – is that my imagination or are the extra channels fuzzing my brain?

With Lyra this software was used for simple routing and switching but with Titan the software obviously now comes into its own. Examples of what you can do here include being able to route all of the analogue outs to various destinations; switching in the aforementioned M+S feature on inputs; and switching in the Overkiller function. It's slick and easy, all you need.

Sound wise I get very much the same results as I did with Lyra and they're superb. I can detect a sheen on my mixes and a rounded feel and detail. Again I must stress that this isn't as obvious as maybe auditioning a great set of monitors against a bad set, but A-B comparisons with cheaper systems reveal a greatness and fullness to the Titan sound. And of course with Titan I have extra flexibility to route more of my studio through the interface straight into my DAW. I play the Nord Stage I have on test alongside some recent DAW compositions and I have to say: / sound great!

Titan is very much Lyra on caffeine; great quality and flexibility plus a greatly reduced price. It'll still seem like a hike for those baulking at three figures for an interface let alone four, but the hike in quality has to be heard. If so, you might be amazed at where you suddenly find the extra cash. **MT**

MT Verdict

- + The superb sound you should expect from Prism
- + Behind a great, simple design
- + Elegant and simple software too
- + Fantastic flexibility
- + Again, the price is now much lower...

... but, again, it may still be a limiting factor for some

Ultra high quality interface with lots of flexibility. Your monitors deserve this interface...

9/10

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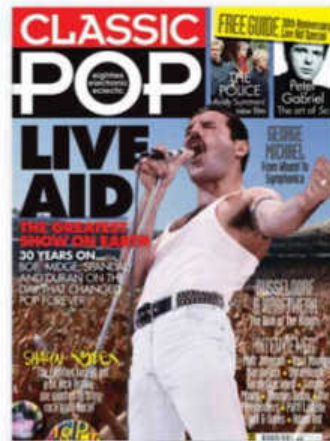
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Blues Harp

Publisher **Organic Loops**

Price **£12.95**

Contact **info@loopmasters.com**

Web **www.loopmasters.com/labels/17-Organic-Loops**

Blues Harp from Organic Loops contains four folders packed with mouth organ loops for adding that authentic American blues vibe to your tracks or media productions. Tempos range from 90bpm up to 140bpm, with crying blues melodies sitting alongside chugging riffs and cuts. Six different blues harps were used, and were recorded through a Fender Tweed, a Bassman and an array of pedals into a class A preamp, with many of the loops featuring both clean and distorted versions separated across the stereo field. Many of the riffs are fairly short and are labelled with key and tempo information, so you could easily chain them together to create a longer performance. Our only request would have been to have them laid out in a sampler



Key Features

- Roots and blues mouth organ riffs
- 382 MB of 24-bit/44.1kHz Audio
- Wav and REX2 formats (Apple Loops also available)
- Clean and amped versions
- 90 - 140 bpm

instrument, so that they can be more easily performed, but at this price we can hardly complain. **MT**

MT Verdict

A concise pack that does what it says on the tin. Expertly performed and processed riffs with a polished, authentic sounding edge that would sit straight into a mix.

8/10

Party Bangers

Publisher **Bass Boutique**

Price **£24.95**

Contact **info@loopmasters.com**

Web **www.loopmasters.com/labels/31-Bass-Boutique**



Key Features

- Beats, bass, synths and vox created by producers Deekline and Fixx
- 644MB of 24-bit/44.1kHz Wav audio
- 301 Loops, 186 hits and FX
- 10 EXS24 instruments
- Also includes Ableton demo project

Producers Deekline and Fixx have created a no-nonsense collection of dancefloor destroying beats, basses and sounds. Party Bangers contains 644MB of 24-bit audio covering tubby 808 and bassline riffs, thumping trap and breakbeat style drums, bouncing Miami-style lead synth and music riffs and chopped-up vocal stutters. You'll also find a modest folder of decent drum hits, some brash rise and fall FX, and 10 multi-sampled bass and synth instruments with EXS24 patches. You also get the Ableton project for the demo track. There's nothing cutting edge here but the simplicity and upfront nature are this pack's greatest assets as these are sounds aimed squarely at cutting through on the dancefloor. **MT**

MT Verdict

Although occasionally simple, brash and obvious, this pack forms quite a potent toolkit if you're looking for sounds to help your tracks stand out in the club.

7/10

The Trumpet 3

Publisher **Samplemodeling**

Price **£139**

Contact **via website**

Web **www.samplemodeling.com**

We first reviewed The Trumpet in May 2008 and found it to be a remarkable virtual instrument that provided a fascinating playing experience and an incredibly realistic trumpet emulation. What more could we want? Well Samplemodeling have recently released The Trumpet 3, an updated version with an assortment of new features.

For purity, The Trumpet was recorded in an anechoic chamber, without ambience. However, using spatial information collected from the multi-microphones used, an early reflection impulse response has been developed for a richer sound. Used in conjunction with pre-delay, panning and distance controls, a virtual soundstage can now be created.

In the real world, different trumpets will have different timbral qualities, one

sounding bright, for example, another more rounded. As an instrument, The Trumpet 3 is more flexible because it can vary its timbre with realtime timbral shaping. Vertical bars are used to shape the first ten harmonics of a played note.

For Middle Eastern music, where non-tempered scales are used, a microtuning feature has been added. It's user definable and very flexible with a range of +60/-60 cents. For realtime playing the process becomes more complicated with the deployment of keyswitches and a sustain pedal.

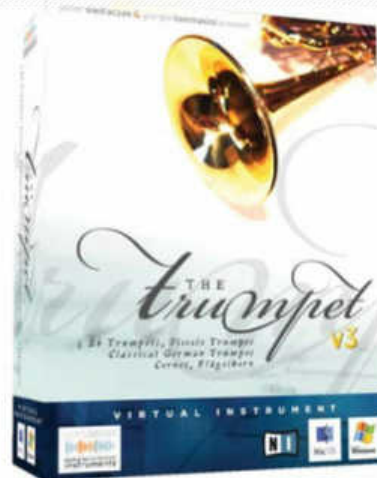
Phasing is a common problem when playing several virtual instruments in unison from a single MIDI track. The Trumpet 3 solves the problem with an advanced ensemble maker that affects timing, pitch, phase, dynamics, pitchbend, velocity and portamento time. It loads as a multi with three trumpets, each with its own convolution reverb settings (courtesy of Kontakt) and each sounding subtly different to the other. It works beautifully – no more thick sounding ensemble sections.

Breath and wind controllers can get out of hand with expression CC peaks but these can now be controlled by drawing and remapping.

Excellence
10/10
MusicTech

Key Features

- Early reflections
- Virtual soundstage
- Realtime timbral shaping
- Microtuning
- Expression mapping
- Unison ensemble multi
- Unison ensemble IR



We've just touched on the features new to The Trumpet 3 here but for more information about this excellent virtual instrument check out the previous review at the **MTM** website. **MT**

MT Verdict

With a number of significant improvements, The Trumpet 3 continues to hold the virtual trumpet top spot. It sounds great, is enjoyable to play and has a wealth of controls.

10/10



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Six of the best

Hardware ■ Software ■ Mobile Technology ■ Samples

Welcome to the **MusicTech Buyer's Guide**, where we round up some of the best products recently reviewed in the magazine. This month, six of the best **microphones** for a range of studio tasks. Everything from classic remakes to USBs...

BEST Classic remake

Neumann U47 FET



Details
Price £2,928
Contact Sennheiser UK
01628 402200
Web
www.neumann.com

Neumann was reluctant to reissue this classic, despite lots of copies and lots of requests for them to do so. But the company has finally relented and the old and new specs are identical – right down to the rat's nest of point-to-point wiring that makes up the preamp. We've never seen reviewer Huw Price so excited, and he wrote: "The U47 FET is no half-baked reissue. Neumann has done a proper job and the results are superb. Although it's not a technical leap forward, it may signify a softening of its stance. 'Collectors Edition' implied that the U47 FET reissue was destined for a limited production run, but it's now a permanent fixture. We hope this microphone enjoys the success it clearly deserves." He concluded: **"It looks and sounds like the real deal – because it is. Rather than thinking of this as a reissue, consider it more of a resumption of production."**

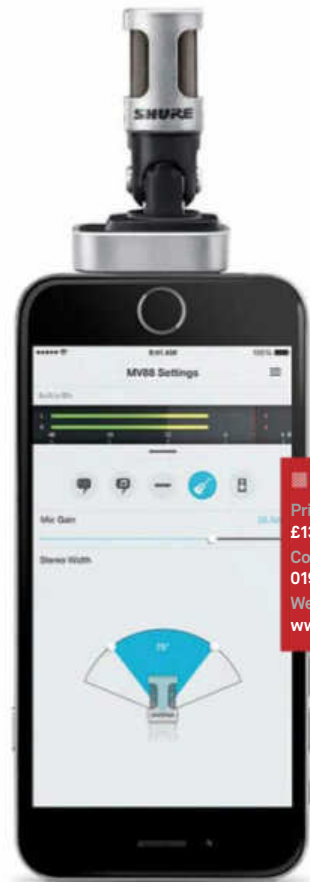
BEST USB

Rode NT1 USB



Details
Price £129
Contact Source Distribution
020 8962 5080
Web
www.rodemicrophones.com

USB mics used to have quite a lowly reputation in mic circles – indeed, they still do among the elite. But many are perfectly usable – and very reasonably priced to boot. Rode certainly has the name, and now it offers a great USB mic, too. We said: "Sound-wise, the mic punches well above its weight, as you'd expect with 'Rode' written on it. With vocals, there's a pleasing presence at the bottom end. It has a great tone, offering an air of authority and a 'BBC' feel. **A great package with a superb, quality feel. It will give your recordings a pro sound for a non-pro price.**"



Details
Price
£135
Contact Shure UK
01992 703058
Web
www.shure.co.uk

BEST Phone mic

Shure MV88

There are many mics for iPhone out there, but this is the one we've looked at most recently, and also one that stands up well in terms of sound against all sorts of other mics. Huw Price wrote: "You can combine the MV88 with the onboard camera to shoot video with high-quality stereo sound, or flip the camera and mic around to enhance your Skype and Facetime chats. It coped with instruments and vocals with equal aplomb, and the compression effect can get pretty radical. All in all, this is a serious recording device with the added benefit of optional sound processing. **The sound and build quality of the MOTIV range of microphones impresses, and you get some vintage Shure vibe, too.**"

→ **BEST** Studio workhorse



Details
 Price £690
 Contact Sennheiser UK
 01628 402200
 Web en-uk.sennheiser.com

Sennheiser MK 8

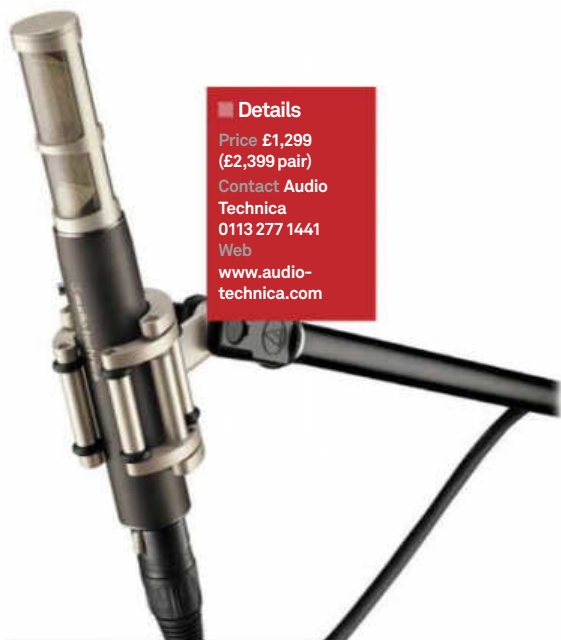
Sennheiser's dynamic mics are particularly well known in professional circles, but its large capsule condenser microphones are lesser hailed. However, they are equally deserving of attention and the MK 8 is jam-packed with features. The mic is equally suited to vocals, acoustic guitars, guitar amplifiers, grand piano, strings, wind

instruments, drums and percussion. Huw Price wrote: "The MK 8 distinguished itself with low noise and a crisp and detailed sonic character. It has a great up-front presence and a generally crisp character, and ably held its own against more expensive mics. **A fine-sounding studio workhorse with a clear modern tone, that offers plenty of user control.**"

“The microphone almost does the job for you and it has the ability to make things sound nicer than they really are...”

BEST Pair

Audio Technica AT5045



Details
 Price £1,299 (£2,399 pair)
 Contact Audio Technica
 0113 277 1441
 Web www.audio-technica.com

The AT5045 is one of those forgiving microphones that almost does the job for you. It's relatively unfussy about placement, and has the ability to make things sound even nicer than they really are. It excels on acoustic instruments and vocals, combining the detail and realism you might associate with the best small capsule condensers with the

larger-than-life presence of a large capsule condenser. Huw Price noted: "The AT5045 is not exactly cheap, but if we had a pair they would undoubtedly be amongst a handful of our go-to microphones." He concluded: **"An outstanding all-round instrument recording mic that demonstrates how Audio Technica is now making some of the world's finest microphones."**

BEST Re-imagine

Peluso P28

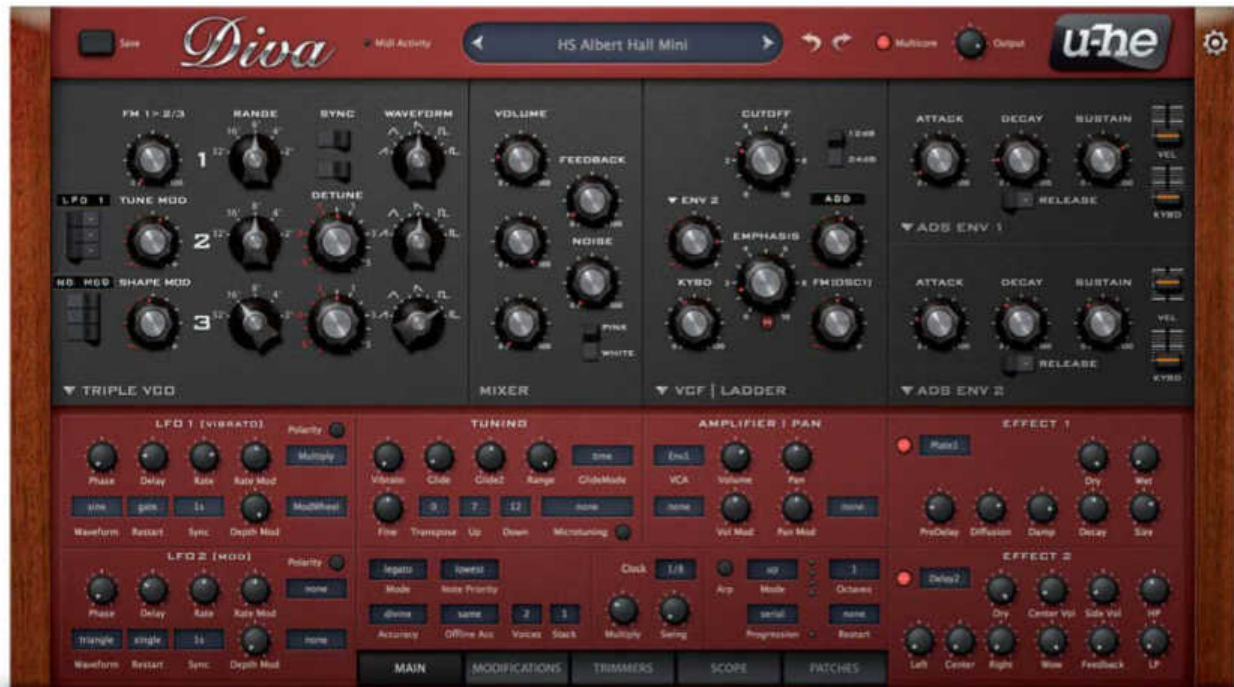
The P28 name implies that it was modelled after the AKG C28, but it is inspired by vintage Neumann and AKG valve pencil mics. "The sound this microphone produces is airy, extremely detailed and very focused in the lows," wrote reviewer Huw Price. "It sounds a bit 'shouty' very close up, but the P28 is still plenty

smooth enough to keep things musical, rather than 'forensic'. Regardless of where you place it, it always sounds good and it's as impressive for clear and breathy vocals as general instrument recording." He concluded: **"Somebody has to meet the demand for mics that the original companies no longer make and the P28 more than fit the bill."**

Details
 Price £720
 Contact KMR
 0208 445 2446
 Web www.peluso-microphonelab.com



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www.u-he.com



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MT Feature 6 unusual plugins

6 UNUSUAL PLUGINS TO SPUR CREATIVITY

The world of VSTs offers a rich seam of plugins to create inspirational sounds and help spark your creativity.

Rob Boffard casts his eye over six of the very best...

Every producer has their favourite plugins. It's easier that way – if you've got a synth or effect you know inside and out, then it's easier to start producing quality music. You don't have to think about what you're doing; you just do it. But there's that nasty little adage about familiarity breeding contempt, and sometimes our favourite plugins

/// **The output is loud enough to shatter speakers.** Proceed with caution **but definitely** proceed ///

fail to spark our creativity. Fortunately, the world of VSTs is vast and wonderful, and if your preferred synth isn't helping you get the sound you want, there are dozens of other unusual plugins to help spark some ideas. Here are six of our favourites.

01 **Sonic Charge Synplant**

It's an old standby, but it's still fantastic. Synplant is a synth with a difference: each sound is based on a seed.

Yes, an actual, onscreen seed, with roots growing out of it. Extend these roots, of which there is one per octave, and the sound then changes. The longer the root, the wilder the sound. You can then plant a new seed once you've found a sound that you like, and take it even further. Did we mention that you can delve into each seed's DNA – again, actual DNA strand – and mess with it? With a gorgeous user interface and a wallet-friendly price (\$99), we can't recommend Synplant highly enough.

02 **Krakli Vurtbox**

The front end of any plugin is known as the Graphical User Interface, or GUI. It's pronounced 'gooey', and for the Vurtbox, it's a surprisingly appropriate adjective. The whole thing looks like someone has taken a synth and actually melted it down. Half of the fun with Vurtbox is figuring out what everything does. This is a synth that lends itself to squelchy, grungy, glitchy sounds, perfect for ambient or trip-hop tunes. Couple of caveats here: Krakli says that the VST can eat through your CPU, and the output is sometimes loud enough to shatter speakers. Proceed with caution, but definitely proceed.





03 Krakli Gargoyle

Yes, we're recommending a second Krakli synth. This one's little visual highlight is an unsettling eye, staring out at you from the right of the plugin. Unlike Vurtbox, the interface is relatively straightforward, and where the Gargoyle excels is in sound design. This is a synth that is perfect for generating weird textures and unsettling audio elements, perfect for either scoring a horror movie or just adding some flavour to a track. For a freeware synth, it offers a staggering amount of control, and you could happily spend hours unlocking its secrets. Or at least, we could. Both the Gargoyle and the Vurtbox are free to download.



04 Hercs Music Systems Alien Artifact

Say what you like about Vurtbox – at least it makes some effort to tell you what its melted controls are. Hercs Music Systems, on the other hand, has a masochistic streak. Its Alien Artifact plugin has four buttons, each of which has a mysterious symbol on it. Each button comes with two sliders, none of which have any scales or measurements on them. This is a plugin that rewards experimentation, and you'll need to make good use of your preset save button – or risk losing that brilliant sound you just made. The end product is all howling wails and eerie warbles – perfect for sound design.



▨ This is a synth that is **perfect for generating weird textures and unsettling audio elements** ▨



05 Linplug Relectro

Weird effects units are actually surprisingly hard to come by. Most mass-market ones are kind of Catholic, and are very transparent in their function. Relectro is different. The best way to use it is to take a very boring sound – say, a basic kick-snare-hat drum loop – and start messing with the controls. There's a pitch section, a compressor, a full EQ and filters, and – this is the really cool bit – a variable wave function, which treats every wave in the sound differently. It's rare to find an effects unit that is so well laid-out, and is also capable of such mindblowing sounds. It's on Linplug's website for just \$79.



06 Native Instruments Molekular

Weird and unusual plugins are usually the domain of small indie developers, so it was a little surprising when Native Instruments debuted Molekular. But it's still one of the most creative effects plugins there is. The gimmick here is modular multi-effects. You build the effect you want with a series of block-shaped units, each with their own unique controls. You then use the plugin's powerful automation facilities to get it moving. And finally, you use the big central control area to morph it, changing the sound to something truly spectacular. It's one of the pricier plugins here, at \$200, but it's absolutely worth it. **MT**

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Show off your studio

It's the feature that **everyone is talking about** with your studios on show. If you want to **show off your studio** – as these people have – send us a picture via the **MusicTech Facebook** page and we'll get in touch...

Martha has some of the finest synths in the history of the instrument...

Martha Plachetka

Interviewee: **Martha Plachetka**

Contact: martha@unmuted.de

Tell us the key components of your studio. Doepfer A-100, ARP 2600, Roland Juno 60, Access Virus TI, Casio CZ-5000, Jomox XBase 09, Korg Volca Keys, Mixtape Alpha, Technics 1210 MKII, Apple MacBook Pro, Brauner Valvet, Shure SM57, AKG C414, some Contact mics, Adam P22A, Fender guitar, Roland Jazz Chorus-50, Yamaha Western guitar, Marxophone, and other stuff like a kalimba, cajon and so on.

Which DAW? I'm working with Logic, Live and Pro Tools at the moment. I started with Logic over ten years ago and it's still my DAW of choice, I know it inside out.

Favourite piece of gear? That changes regularly, it depends on what inspires me the most at the time. At the moment I'm totally into the Jomox XBase 09 I got from a friend. The sounds are great, you have some hardware in your hands and don't have to look into a screen, which is very pleasant from time to time. In combination with the D16

Devastor you get some very bouncy and organic sounds out of it.

How often would you say do you spend in your studio per week? Everyday, I'm totally addicted.

How do you use your studio? I'm working professionally as a sound designer, composer, music producer and from time to time I also get to test some gear, mainly synthesizers, for reviews. As Panic Girl, I'm producing trip-hop and electronica tunes, that get mainly released on my own label by now.

Does anything annoy you about your set-up? Nothing really annoying, but a separate recording room would be nice.

What is on your gear shopping list? Not sure yet, but I tend to get me a new module for my modular system. Or a MacBeth synthesizer, they sound amazing.

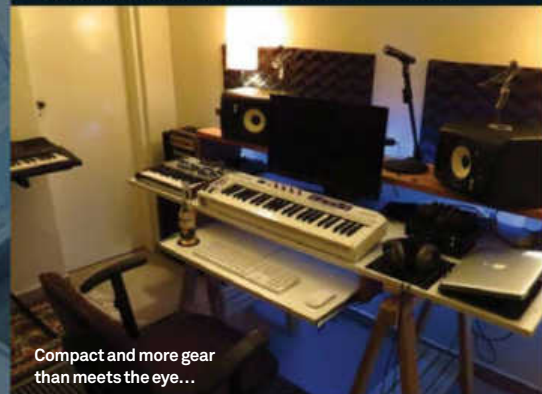
Dream gear? A CS-80 would be a

Not the biggest first floor-based studio we've seen but one of the best equipped...



Gabriel Moraes

Contact: moraes_g@hotmail.com



Compact and more gear than meets the eye...

Key components? Apple Macbook Pro 13; Arturia Minibrute SE; Focusrite Saffire Pro 14; Boss/Roland Space Echo RE-20, Tremolo Pedal, Metal Zone Pedal; Shure SM57; Epiphone Les Paul Custom Black; KRK Rockit 6 monitors; Sennheiser HD 518; Meteoro Atomic Drive 20 Amp; Waldman Krypton keyboard MIDI Controller.

Which DAW do you use? I use Ableton Live for producing.

What is your favourite piece of gear? The Arturia Minibrute SE. I also like the SM57 microphone which I use to record some vocals and percussion.

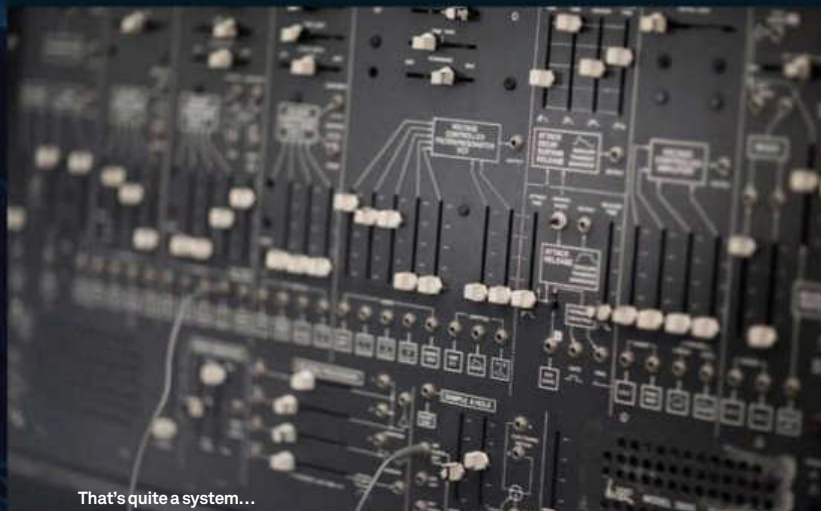
How do you use the studio? I produce electronic music and I DJ at the weekend. I'm currently graduating in music production and I'm planning to start producing more bands as well.

Next buy? The next thing I want to update in my studio is my monitors. I want to buy a couple of Focal speakers to improve my mixing and mastering perception.

Anything annoy you? The only thing that annoys me a bit is the lack of acoustic treatment on my room.

Dream piece of gear? A Moog Sub 37 – I love it so much.

Any advice? To have the studio as functional as possible. Don't try to innovate so much, and do try to get the best acoustic as you can get in your room.



That's quite a system...

dream come true, the *Blade Runner* OST and compositions by Vangelis [big CS-80 user – Ed] are a huge inspiration. Or a big modular system with modules from companies like 4ms, Make Noise, Mutable Instruments, Endorphin.es and so on. Or a VCS3, the one used by Pink Floyd in *On The Run* for example, amazing sounds. Though the new Elements synthesizer by MacBeth is amazing, too. Too many choices here!

Do you have any crazy/interesting studio based anecdotes? It's not really a story that happened in my studio, but through my job as a

writer I had the honour of meeting Peter Zinovieff in his house in Cambridge. I got to see his VCS3, the original manual for it and many other interesting things – he's still researching, developing, giving lectures and so on. Impressive and definitely a highlight for me.

Any advice? It depends on what you want to do, but I think a good start for everyone setting up a studio would be to focus on good-sounding acoustics in your control room (and of course recording room if you have one). It's the basis for everything to follow.



→ Franky Nero

Contact: frankynero@googlemail.com



Be worried if Franky asks if you want Autotune

Key studio components: Apple Mac Pro running Logic Pro X; Universal audio LA 610 preamp; Neumann TLM and sE mic; Korg Triton Extreme 61 keys; M-Audio Keystation 88 keys; various acoustic guitars; bass guitar; electric guitar; Tascam DM4800 mixer; Dynaudio 6A monitors.

Which DAW? I use Logic Pro X because I feel the sounds on Logic are more professional.

Favourite gear? The Universal Audio LA 610 because I'm more of a singer and it seems to give me very big warm vocals with my Neumann mic.

How often do you use the studio? Around six days a week.

How do you use your studio? Professionally or fun? Just for working professionally.

Does anything annoy you about your setup? Yes wish I had more space. What annoys me is the distance between my rack keyboard mixing desk and computer. If possible I would love to have two computers that would be joined together. One would be dedicated to mixing and the other for production.

What is next on your shopping list? Because it's my dream is to turn the studio into a more live set up I would love to get Avalon VT Preamp. I would also like to upgrade my current

Neumann to a U87, upgrade my mixer to an SSL (preferably an AWS900). We might get either a Neve, Black Slate Pro Dragon, Avalon or Focusrite ISA428 and in the future we also plan to get a lot more outboard gear.

Dream piece of gear? An SSL mixer with at least 40 channels.

Do you have any advice to anyone starting out on a studio build? My main advice to anyone would be to get to know everything about your equipment and gear inside out because it's not about how much you have but about your knowledge on how to use it. Also, when it comes to buying gear it's worth saving up to buy one good piece of equipment rather than buy loads of gear just because it's cheap.

Any studio anecdotes? I produced a beat for an artist a while back. He took the audio to another studio for the vocals and brought it back to me to mix and master. But when I heard it, the singing was so bad I almost turned it down but I needed the money! As I began mixing, the vocals were so bad I had to use Logic's Flex 2 to correct his timing and to put him in key. I asked if he was okay with me adding Autotune too but he disagreed because he wanted to retain his original sound as he believed it was unique compared to anything out there. I nodded in agreement.

Stuart Lynch

Email: therapture.sl@gmail.com

Web: <https://soundcloud.com/stuartlynchtherapture>



A studio is a studio...!

Main components? KRK Rokit 6 monitors; Yamaha MOX6; Novation MiniNova; Hammond 8022KM Organ with Leslie speaker; E-mu B3, Proteus 2000 and Orbit; M-Audio Trigger Finger Pro; Eurorack 2222 mixer; Behringer BCF2000; NI Massive, FM8; Izotope Ozone 5; Windows 7 laptop.

Which DAW? Sony Acid Pro is the first DAW I used. I'm familiar with it and it does everything I need. I've tried DAW demos but get frustrated. I do keep looking at Ableton and will put aside time to learn a new system.

Favourite gear? The Hammond has a lovely tone but I'm yet to use it in my music – I just noodle away on it.

How do you use the studio? Just for fun. I have done mastering, mixing and production work for others, though, and recently recorded a singer/songwriter, just vocals and acoustic guitar. I was really pleased with the results. But it is 90% for me.

Anything annoy you about it? When you get all the connections for your soft synths and control surfaces set up, you save it but then the gremlins have swapped everything so nothing works. (Maybe that's just me!)

Next buy? I'm really tempted by the AIRA range. Maybe the TR8 and TB3.

Dream piece of kit? A Yamaha CS80. Its linked with some seminal tracks.

Do you have any studio anecdotes? My music is licensed by a company in the US and a track was used for a movie soundtrack and I was quite excited. I googled the studio. They make, ahem, 'specialised adult interest movies'. Still, a soundtrack is a soundtrack! **MT**

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www.musictech.net
Anthem Publishing Ltd
Suite 6 Piccadilly House
London Road, Bath BA1 6PL
Tel +44 (0)1225 489984

Senior Editor Andy Jones
andy.jones@anthem-publishing.com

Art Editor Debra Barber
debra.barber@anthem-publishing.com

Production Editor Gary Walker
gary.walker@anthem-publishing.com

Digital Editor Andy Price
andy.price@anthem-publishing.com

Multimedia Editor Alex Holmes
alex.holmes@anthem-publishing.com

Business Dev. Manager Di Marsh
di.marsh@anthem-publishing.com

Marketing Assistant Verity Travers
verity.travers@anthem-publishing.com

The Experts (see page 3)

Rob Boffard, Mark Cousins, Keith Gemmell, Andy Price, Mike Hillier, Hollin Jones, Marcus Leadley, John Pickford, Huw Price, Martin Delaney

Cover Image iStockphoto

Commercial Director Simon Lewis
simon.lewis@anthem-publishing.com

Managing Director Jon Bickley
jon.bickley@anthem-publishing.com

Creative Director Jenny Cook
jenny.cook@anthem-publishing.com

Subscriptions & Back Issues

Tel 0844 844 0398 (UK)
Tel +44 (0)1795 592849 (overseas)
Price (12 issues) £64.95
UK basic annual rate

Printed by Polestar UK Print Limited
+44 (0)1582 678900

Distributed by Marketforce (UK) Ltd,
5 Churchill Place
Canary Wharf
London
E14 5HU
Tel: +44 (0) 20 378 79001

Licensing enquiries Jon Bickley
+44 (0) 1225 489984
jon.bickley@anthem-publishing.com

Music Tech Magazine, ISSN number 1479-4187, is published monthly (12 times per year) by Anthem Publishing c/o USACAN Media Dist. Srv. Corp. at 26 Power Dam Way Suite S1-S3, Plattsburgh, NY 12901 for US\$129.99 per year. Periodicals Postage paid at Plattsburgh, NY and at additional mailing Offices.

POSTMASTER: Send address changes to Music Tech Magazine c/o International Media Services, 3330 Pacific Avenue, Suite 500, Virginia Beach, VA 23451-2983

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FEATURE/72MINS

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VIDEO FEATURE/34MINS

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